

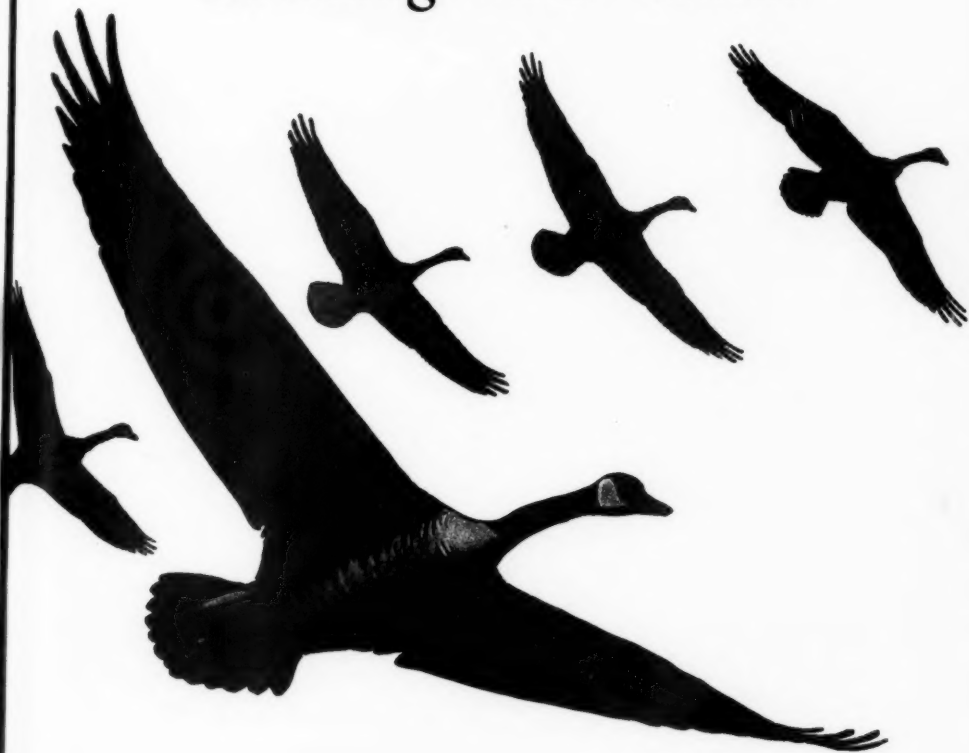
AUDUBON MAGAZINE

The Season

and

Formerly BIRD-LORE

Breeding-Bird Census



SECTION II

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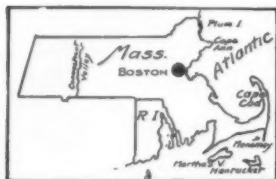
The Season

CXLVI, June 1, 1943
to August 1, 1943



BOSTON REGION

Second half of June hot and dry. Rain-fall in July about normal, but the month had the distinction of being the hottest in thirty-two years.



The breeding season was an average one as regards duration,

the song period waning at about the usual time. Land birds were generally successful. My reports on tern colonies are inadequate but the Arctic and least terns on Monomoy did not raise a single young bird, laid very few eggs, and left in mid-July. The good colonies at Nauset Point were disrupted by the washing away of a quarter of a mile of beach last winter, a sad blow to bird students, as this has been the great gathering ground of shore-birds and other migrants at high tide in recent years.

Notable breeding records: herring gull on an island off Stonington, Conn. (Miss Cheeseborough); a pair of mockingbirds raised 4 young at Rockport, Cape Ann, Mass. (Mrs. Turnbull); 2 pairs of yellow-crowned night herons at Marshfield (Miss Snyder). The seaside sparrow may have nested at Monomoy and East Orleans. There were two broods of blue-winged teal on the pond at Monomoy Point; one of 8 chicks fledged six; the other brood of

eleven all flew. There may have been others, as there were 6 males.

Of the usual summer stragglers, the most interesting were a red-throated loon, king eider and Iceland gull at Chatham (Griscom), a black skimmer (Miss Snyder), a European cormorant at Hyannis (Chester Bowles, Jr.); 2 stray Eastern willet in Essex County.

The first shore-birds, swallows and great blue heron were noted at Monomoy, July 3. On the whole, the first flight of adult shore birds was late and poor in numbers. Notably poor in numbers were the knot and sanderling; in good numbers were dowitcher, lesser yellow-legs and semipalmated sandpipers; peak counts were 1200 on July 18 and 21; 1500 on July 28, and 15,000, July 28, respectively. A Western sandpiper on July 3 is a state record, and there was a scattering of others during the month; the species is a great rarity in July so far to the northeast as Massachusetts. There is normally a marked migration of cliff swallows through eastern Massachusetts in late July, at which time it reaches its peak numbers of the year; I did not see a single bird!

The only great rarity was a female European ruff in full breeding plumage at Newburyport on July 21 (Curtis, Griscom.) — LUDLOW GRISCOM, *Museum of Comparative Zoölogy, Cambridge, Mass.*

NEW YORK REGION

June was warm, the mean daily temperature 5.6° above normal and for one-

third of month daily temperature excess



ran from 10° to 19°. Humidity was unusually high. Rainfall was subnormal, the greater

part of precipitation occurring in two days first part of the month. Prevailing winds westerly and uniformly light. July, too, showed excess temperatures but only moderately above normal. Rainfall deficient, mostly in form of scattered thunder-showers. With low precipitation the water table was uniformly lowered and many shallow ponds assumed the character of swamps, often resulting in a complete change in ecological conditions in immediate locality.

Severe conditions imposed by war restrictions along ocean beaches have so limited observations of shore and water birds that reports are few and incomplete.

Summering loons and double-crested cormorants reported by Latham and others. These are probably oiled birds, unable to migrate. White herons are not as yet here in any numbers, American egrets, 6 at Mastic, L. I., July 18 (J. T. Nichols) and 1 in vicinity of Franklin Lake, N. J., June 15 (Hufschmid). One little blue heron on July 23, same place, same observer.

A turkey vulture, occasional visitor in eastern Long Island, reported at Orient July 1 (Latham). Cooper's hawks nested successfully at Massapequa, L. I., and ospreys at several points on Long Island in accustomed numbers.

Piping plover are well established as nesting birds at Moriches (Wilcox). The birds were on their nesting grounds early in May and were successful in rearing young. Among adults were several banded returns of former years. Other nests reported at Long Beach (Janvrin). Knots and dowitchers reported at Orient until June 10 (Latham) and returning dowitchers were back in some numbers by July 11 (J. T. Nichols). Hudsonian curlew recorded in first week in July at South

Oyster Bay (Verity) and the first semipalmated plover seen at Orient on July 1 (Latham). First willet record July 17 and first stilt sandpiper, July 18. Sanderling present in numbers on the New Jersey coast by July 30 (Seeley).

Common and least terns had a good nesting season, occurring on north side of south Oyster Bay after breeding (Elliot). Numbers of black skimmers present along Short, Long and Jones Beaches, L. I. (Doyle).

Both yellow-billed and black-billed cuckoos noted as unusually numerous in migration this year and breeding reports indicate them in increased numbers throughout the region. A pair of short-eared owls with several young reported by several observers at Massapequa in early June. A red-headed woodpecker seen at Baldwin throughout July (Huppert, Doyle), an unusual record for Long Island, particularly for the south shore.

Prairie horned larks have bred at several Long Island points, one report of 8 birds, 2 of which were immature, was sent from Old Mill on June 5 (Komorowski). Tree swallows bred at several Long Island points, among them Oak Beach, Jones Beach, Massapequa and Mastic. A red-breasted nuthatch was observed through late June and throughout July at Bethany, Conn. (Bunting). Catbirds are unusually abundant, wood thrushes also. Studies of the latter indicate to one observer (Seeley) that it is taking on a habit of its close ally, the robin, and is moving into towns in increasing numbers. The veery again nested at Massapequa; this the fourth consecutive year.

White-eyed vireos reported as more common than usual and, throughout first half of period the red-eye was scarce, numbers increasing after first of July. There seems to have been a shifting of the yellow-breasted chat. In some former breeding localities they are absent while appearing in new localities. The probability is that they are rather critical in their nesting requirements and that slight changes in the development of the flora, for example, will render a former nesting site unsuitable.

On Long Island, at least, the field and

chipping sparrows remain scarce but Henslow's are breeding in suitable territory in good numbers. European goldfinch is again breeding at Massapequa (Elliot). One full-grown brood was seen. Throughout the period five singing males have been observed and the supposition is that they were without mates. The ratio of sexes must show a strong preponderance of males, this maladjustment in sex ratio being the reason that prohibits a more rapid increase of the individuals at this place. — CHARLES K. NICHOLS, *American Museum of Natural History, New York, N. Y.*

PHILADELPHIA REGION

Hot humid weather prevailed throughout June and July. Rainfall about normal. Most records pertain to breeding birds.



On June 13, Jacobs and Druce, interested in hole-nesting birds, investigated telephone poles along the New Jersey Central Railroad between Chatsworth and Pasadena, N. J., a distance of $8\frac{3}{10}$ miles. Fifty-eight poles were found to have holes in them, and averaged about three holes each. Twenty-nine were inhabited or apparently inhabited, and twenty-nine poles were apparently uninhabited. Findings were as follows: 5 contained young flickers, 1 contained young, probably flickers; 1 an empty nest lined with deer hair (chickadee); 6 held nests of bluebirds (5 with young and 1 with eggs); 4 had nests of starlings; 4 contained nests of current season but unoccupied; 1 held some creature, apparently not a bird; 2, mice; 3, flying squirrels; 1, wasps; 1, a dead flicker.

Hérons—had a good breeding season, Paulsboro, N. J., rookery 494 nests, actual count divided as follows: little blue heron, 25; American egret, 75; black-crowned night heron, 394, June 27 (Wright, Mannors); Stone Harbor, N. J., rookery, estimated little blue heron, 40; night heron, 160; snowy egret, 6; yellow-

crowned night heron, 2, July 4 (Coman, *et al.*); Mill Creek colony, Cape May County, N. J., July 4, little blue heron, 40; snowy egret, 15. Same colony, July 13, green heron, 6; little blue heron, 20 adults, 50 immature; American egret, 5; black-crowned night heron, 15 adults; 10 immature (McDonald, *et al.*). Various observers have reported from 75 to 150 egrets frequenting marsh at Bridgeport, N. J., latter half of July.

Skimmers—new colony located by F. Morse Archer, Jr., near Barnegat Inlet, N. J., July 10. About 20 pairs on a sand island with a number of terns. This colony appears to be the northernmost on the New Jersey coast. About 35 pairs of skimmers were found nesting on a sand bar at North Wildwood, N. J., July 14 (McDonald). At that time most of the birds were incubating.

Flycatchers—discovery of a breeding pair of alder flycatchers at Beverly, N. J. (Street) is of outstanding interest. Birds were first noted, June 6, building nest, June 13. First nest destroyed. Second attempt successful and young raised (this the first breeding record for this species in southern New Jersey). Street also found nest of Acadian flycatcher July 10 (contained 3 eggs) near Beverly, N. J. Later the young hatched and were raised successfully. Acadian flycatcher is a rare breeder in Burlington County, N. J. Nest of this flycatcher (with 3 eggs) was also found near Haddonfield, N. J., June 20 (Potter). Young were hatched and left nest about July 13. This seems to be the first record for the Acadian flycatcher in Camden County, N. J.

Mockingbird—there are very few records of mockingbirds breeding in this area. This summer a pair raised 2 broods in a yard, Haddonfield, N. J. The second nest contained 4 eggs, June 16 (Haines, Street).

Hummingbird—a rather late record for this bird, nest with newly-hatched young near Deer Park, N. J., July 25 (Potter).

Bobolink—nest with 4 eggs, Jacksonville, Burlington County, N. J., June 6 (Jacobs, Bruce). Apparently the first breeding record for the county.

Other records of interest: Bridgeboro,

N. J., June 6, double-crested cormorant, 1 (Street); Sewell, N. J., June 20, upland plover, 6; short-eared owl, 1 (Manners); Springton, Pa., late June, Canada goose with 7 young, Corson's Inlet, N. J., July 29, knot, 30 (E. H. and J. P. Rigby).—**JULIAN K. POTTER**, 437 Park Ave., Collingswood, N. J.

CAROLINA REGION

Temperature above normal at Charleston, Columbia and Raleigh, for June, about normal for July, rather cool early



part of month. Rainfall below normal at Charleston and Columbia in

June, nearly twice normal at Raleigh, 4.93 inches fell in one day; July somewhat above normal at Charleston, slightly below at Columbia and Raleigh.

Inland Section. Summerville, S. C. (Swope) reports summer visitors late and scarce, painted buntings, summer tanagers, vireos, orchard orioles, and swifts all rare. On the other hand local residents were not affected and raised their young as usual. Columbia (Mrs. Charles) reports 56 nests found in her 7-acre "sanctuary" belonging to 28 pairs of birds of 13 species, about 90% of the actual nests being found. Red-bellied woodpeckers nested there this year for the first time but mourning doves deserted it. Cardinals still trying to nest at end of period. No movement of birds at Raleigh, however robins, mockingbirds and wood thrushes were still feeding young end of period. Unusual occurrences, white-throated sparrow at Columbia, June 29 to July 12, a full-plumaged specimen seen at close quarters. Raleigh had common loon on city reservoir last week of July; an immature yellow-crowned night heron July 26 same place, also night hawks begin to migrate over city July 22.

Mountain Section. White-throated sparrows seen at Pineola, June 26 (D. L. Wray). Arden (Mrs. Grinnell) reports

birds commoner than usual all summer, among others black-throated green warbler with young on July 31 and later; young of this species also found flying on Pinnacle Mountain at 5000 feet, July 6 (Grey). Arden also had robins nesting all through period and young in nest at close of it. Tryon (Holmes) reports vireos and whip-poor-wills unusually scarce and mourning doves more plentiful than usual. Blue jays also showed great increase and did much damage to green ears of corn. On the Mt. Mitchell road from Montreat (2700 feet) to Pinnacle Mountain (5693 feet) July 6 young of black-throated blue warbler and flicker on the wing and Canada warbler carrying food; Carolina juncos which should have appeared at 2600 feet, not found till nearly 4000 feet and then scarce; hummingbirds common through trip (Grey).

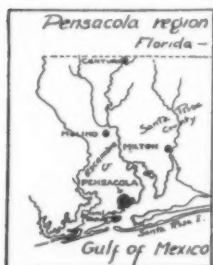
Coastal Section. Charleston and vicinity (Chamberlain). A. R. Phillips' record of several bank swallows July 20 is two weeks earlier than his record last year and earliest to date. Uncommon in summer is Cooper's hawk, reported July 12 and 14 (ARP), and July 15 (Chamberlain). Black terns, noted July 27 and 31, should have been in since early July. Uncommon in summer was a yellow warbler, July 23 (ARP). Edward Manigault reported, June 21, at Wambaw Creek, South Santee River, 3 swallow-tail and 5 Mississippi kites; the former quite uncommon now, Manigault having noted neither species in ten years in this particular spot, although both have been recorded nearby. Crested flycatchers carrying food to young June 6; left nest June 21. Carolina wren nest with 3 eggs found, 10 A.M. June 16 in glove compartment of truck which had been in daily use through the afternoon of June 10—hence nest built and 3 eggs deposited in less than six days. July 9, pair of blue grosbeaks with food in beaks, and chipping sparrow feeding young in nest (ARP). A pair of coots on Cape Island pond June 14, but no nest known (DuPre).

Pea Island had good nesting season for Wilson's plover, laughing gulls, black skimmers, and common, least, and gull-billed terns; but few royal terns, all of

which is usual for the past two years. Shore-bird migration just beginning as period closed: semipalmated sandpipers, and sanderling, which are a good index species were quite uncommon. Black terns also scarce, and post-breeding migration of herons had hardly begun. A single red-backed sandpiper on July 27 was a month ahead of normal arrivals.—C. S. BRIMLEY, 515 Washington Ave., and JOHN H. GREY, JR., 2718 Vanderbilt Ave., Raleigh, N. C.

PENSACOLA (FLA.) REGION

Hot weather and subnormal rainfall of May continued throughout present period—June had only 60% of normal precipitation, July about 80%. Showers in July were frequent but 'spotty', with the result that some upland ponds were full, others nearly dry. River and creek levels were low. No winds of destructive force experienced.



experienced.

Arrivals—Main feature of this period in former years has been the mid-July influx of south-bound shore birds. This flight has been progressively less for the past five years, and this year seemed almost nonexistent. However, gasoline rationing, resulting this summer in fewer visits to beaches than formerly, affected the record. Only arrivals noted were spotted sandpiper, lesser yellow-legs and semipalmated sandpiper, July 18; piping plover and sanderling, July 22. Sanderlings in gray plumage are present in small numbers every summer, but birds of July 22 were the first seen this season in nuptial plumage. In spite of reasonably favorable condition of roadside ponds, solitary sandpiper had not been seen at close of the period. Other arrivals were: black and white warbler, July 11 (earlier by one day than earliest previous record); marsh hawk, July 19 (E. J. Koestner—earliest recorded by almost a month); and yellow warbler, July 25.

Rarities—Ground dove, rare in this central part of Gulf Coast, reported on June 8 (Miss L. Pate). Caspian tern, rare and possibly overlooked among great preponderance of royal terns, seen on July 18.

Nesting—Outstanding is discovery of a nest of the Mississippi kite, July 11 (Mrs. J. F. Wernicke). The nest, about 30 feet up in a live oak in sparse woods, contained 1 well-grown young that was on wing before end of the month. Mrs. A. L. Whigham reported a yellow-breasted chat (rare breeder in this region) present at Century for the third consecutive summer and in full song up to July 2. Gray kingbird nested in city of Pensacola for the second consecutive summer, several miles inland from the normal Gulf beach habitat. Two king rails, reported as so absorbed in a noisy chase back and forth across a main road that they were oblivious to the presence of an observer (Koestner), may have been engaged in very late mating—June 7. Other nesting data, all rather late, include: red-eyed vireo incubating closely, June 6; orchard oriole, young birds just out of nest, June 12; red-winged blackbird feeding newly-hatched young in nest, June 13; flicker and red-headed woodpecker incubating, and pine warbler feeding young birds just out of nest, June 27.—FRANCIS M. WESTON, 2006 E. Jordan St., Pensacola, Fla.

OHIO-MICHIGAN REGION

Following an exceedingly wet spring, skies cleared in June and growth of plant and insect life flourished. Then July



brought more rain and became one of the wettest mid-summertime in history. However, there were few destructive storms, and conditions for wildlife generally seemed quite good.

American egrets, al-

though still uncommon during the nesting season, are being seen with increasing frequency throughout the summer in the larger marshes of northern Ohio. But the post-breeding flight, beginning in late July, seemed somewhat below last year's.

Observers in Ohio and Michigan report fewer wood ducks this summer. It is natural to wonder if this is not a result of the hunting last fall. Near Kalamazoo there were several hundred Canada geese on wing in late July (Pirnie). The highest water since 1929 in Lake Erie was unfavorable to duck nestings there. Very few brooks were seen in the marshes along shore, but ducks were more numerous than usual at field ponds in the interior. One, and possibly two, whistling swans remained throughout the summer for the first time on record in the Toledo area.

High water in lakes and streams covered most of the usual mud flats both in early June and late July. But, where favorable territory could be found, shore birds were seen at the normal dates. By July 4, small flocks of dowitchers, lesser yellow-legs, greater yellow-legs, and least sandpipers, and individuals of other south-bound species had reached Toledo. The only Wilson's phalarope reported this season was seen in the southeast corner of Michigan, near Toledo, on July 3 (Campbell).

A mature least tern, the first for the state, was seen in southeastern Michigan, near Toledo, July 10 and probably on June 19. At the same time and place there was an immature Franklin's gull, seen rarely in this region in fall migration, but quite unexpected at this date (Campbell, Mayfield).

Another unsuccessful year for nesting common terns at Lake Erie arouses speculation about how frequently they must succeed in rearing young to maintain their numbers. Nesting attempts reached a new low on the islands of Lake Erie, but a few were hatched this summer for a change (Walker). At Maumee Bay, near Toledo, there were attempts, but no young, because of flooding of nests by fluctuating wind tides. Non-breeding Bonaparte's gulls (150), Caspian terns

(6), and Forster's terns (20), rarely seen in nesting season in most of this region, remained near Toledo throughout the summer in at least the numbers shown for each.

Although mockingbirds have been seen occasionally in winter at Youngstown, a singing individual arrived in June this year, and stayed throughout the summer for the first time (Cook).

The white-eyed vireo, a rarity in northern Ohio, was singing during several weeks of the summer in exactly the same spot where a similar bird was seen a year ago. No mate or nest was found.

A mourning warbler remained singing through the nesting season near Lakeside, Ohio (Alta Smith); a Tennessee warbler June 5 near Lansing (Wilson), a Cape May warbler at Put-in-Bay, Ohio, June 9 (Walker), and magnolia warbler near Toledo on July 1 (Van Camp). Hooded warblers were seen more frequently than ever and appeared in new territories west of Cleveland (Skaggs). The first south-bound northern water-thrush reached Put-in-Bay July 31.—HAROLD MAYFIELD, 3311 Parkwood Ave., Toledo, Ohio.

MISSOURI REGION

Rather cool rainy weather of June was followed by about normal temperatures during July with a deficiency of precipitation.

Floods which began in the Missouri Valley in late May continued into early July, and when the water receded most of the bottom land

was a desolate waste of mud and brown vegetation. Reports of nesting waterfowl during the period have been meager. A few mallards, blue-winged teal and wood ducks were seen, or observed with broods in scattered localities over the state, but it is doubtful if any nested successfully in the Missouri Valley. Great blue herons and black-crowned night herons were frequent. American egrets present at Dardenne marsh, St. Charles



County and Pere Marquette during June, probably breeding. A yellow-crowned night heron was seen at Pere Marquette about June 1 (Father Link). Pied-billed grebes (half-grown young), king rails (nests and young) and least bitterns were frequently observed in small marshy areas on higher ground, many of which dried up during July. A nest of the woodcock with young was found in St. Louis County, May 4 (Comfort) and upland plovers were frequently reported during the nesting season. Least terns (perhaps breeding) were observed at Lake Park, Ill., during June and July.

The southward movement of shorebirds was first noticed July 18. From then on to end of month, least and semipalmated sandpipers, pectorals and black terns were seen in increasing numbers.

For land birds the season has been rather dull. From the Quivera area, Hedges reports 3 black and white warblers June 20 (rare during summer) and a colony of about 500 pairs of bank swallows. The isolated colony of prairie warblers in that area had a normal season and 11 Bewick's wrens were reported June 20, the only place in the northwestern part of the region where they are common. Quivera also seems to be an eastern outpost for Nuttall's poor-will, 8, June 20—(Hedges). Late in May yellow-headed black-birds were reported as nesting commonly in Platte County marshes but their fate during the flood is not known. A nest of the short-billed marsh wren was found in St. Charles County, May 21 (Schmidt). Chuck-will's widow is breeding at Eureka, about 30 miles southwest of St. Louis.

An interesting report from northeastern Oklahoma (Mayes County) indicates the scissor-tailed flycatcher and painted bunting breeding about 25 miles west of the Missouri boundary.

At this point a few changes or trends in the breeding-bird population of Missouri may be discussed. Carolina wren, blue-winged, prothonotary and worm-eating warblers are common breeders in favorable locations in the eastern part of the state but seem to be decreasing near the limits of their ranges in the west.

Twenty-five years ago the worm-eating warbler nested commonly in the Kansas City area while today only an occasional breeding pair, or straggler in spring, is noted. The prothonotary and blue-winged warblers have greatly decreased as breeders in the same area during the last decade. The status of the Carolina wren has changed from common to rare in parts of western Missouri during the last ten years. These changes seem to be too definite to be looked upon as seasonal fluctuations. The song sparrow is at present a common breeder from the St. Louis area northward but almost unknown in summer in other parts of the state.—JAMES W. CUNNINGHAM, 217 S. Meramec, Clayton, Mo.

MINNESOTA REGION

June was a month of extreme weather conditions. A terrific storm and torrential rainfall all over the state on the 15th, and



ten days of excessive heat from 14th on were followed by a cold spell calling for indoor heat with report of a snow flurry at the Twin Cities on the 28th. Temperatures ranged from 98 degrees at Pipestone and Rochester to 37 degrees at Argyle. The mercury rose above 90 degrees at Minneapolis for eight consecutive days. July was more normally warm with daily temperatures a little above 80 degrees and only occasionally over 90 degrees. Frequent rain storms kept the water levels high. Lake Minnetonka was the highest in twenty-three years, and famous Minnehaha Falls was beautiful all summer.

Heavy rains in June with high winds brought disaster to marsh and slough nesting birds, observers in the midwestern part of the state reporting vast numbers of eggs of ducks, coots, grebes, rails, and gallinules floating about in many places. Flooded river bottoms must also have taken heavy toll.

Many sloughs and small lakes that disappeared during dry conditions have reappeared and are once more populated. Mr. Swedenborg in a letter dated July 30 describes the inhabitants of such a revitalized slough in the outskirts of Minneapolis: "This has certainly been a successful nesting season in this section. Young birds have been numerous, especially in the sloughs and ponds. The small slough at 58th Street and Penn Avenue was most interesting. At least two families of ruddy ducks are being reared there, and with them are many mallards and teal, scores of coots, a few gallinules, pied-billed grebes, black terns, green herons, at least 1 pair of least bitterns, a family of American bitterns with downy young on June 28, and other interesting birds." He adds: "A few pairs of lark sparrows nested on hillsides above the Minnesota River lowlands in Eden Prairie. On 6th of June, young were out of nest." Forty or fifty years ago this sparrow was one of the common ground-nesting birds hereabouts. Then it began to disappear from old haunts for no apparent reason until it is now a rather scarce bird, locally distributed. Such protracted disappearance of species of this type are puzzling when the preferred conditions have been little, if any, disturbed. The lark sparrow is not the only bird that has undergone such decrease in abundance. Possibly altered food conditions, adverse competition, and more subtle stresses are responsible.

The always mysterious early return of the shore-birds came as usual. June 13 there were 3 large north-bound flocks of sanderlings and turnstones on the Point at Duluth, and on July 28 there were 4 sanderlings, 5 semi-palmated sandpipers, 1 red-back, 12 yellow-legs, and an American knot back at the Point, none of which was there a week previously (Lakela). On July 21 pectoral and solitary sandpipers were back at Minneapolis (Kilgore). Non-breeding, vagrant birds or widespread nesting dates at the north may be the explanation.

The following nesting records for the Twin Cities area are by William H. Longley: Virginia rail, May 31, 7 nests with

eggs, 1 to 11; sora, May 31, 10 nests, building to 10 eggs; mourning dove, May 3, 4 nests with 2 eggs each; black-billed cuckoo, June 13, 3 eggs and 1 young just hatched; bank swallow, many young awing, July 6; robin, 43 nests, April 6 to July 25 (small young); orchard oriole, 2 pairs building, May 31; June 3, nest, 5 oriole eggs and 1 cowbird's egg; June 13, nest, 3 eggs of cowbird; July 11, nest, 1 large young; Brewer's blackbird, building April 18, last nest July 8, 3 large young.

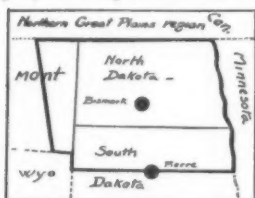
June 1 to 3, Dr. Arnold Erickson and Mr. Russell Berthel of the State Game and Fish Department made a nesting duck census chiefly in the vicinities of Willmar and Detroit Lakes with the following results: mallard, 20 males, 5 females; gadwall, a pair; baldpate, a pair; pintail, 90 males, 10 females; blue-winged teal, 150 males, 40 females; shoveller, 3 males, 1 female; redhead, 23 males, 6 females; ring-necked, 3 males; canvas-back, 3 males, 1 female (Willmar); lesser scaup, 17 males (Detroit Lakes); ruddy duck, 36 males, 24 females. The disparity in sexes is to be accounted for by the females being on the nest.

Items of Interest—The *buff-breasted sandpiper*, so rare of late, is seemingly slowly increasing. Dr. Lakela reports at least 7 on the Point at Duluth July 31 and August 1. "They were feeding on a playground where the grass and clover had recently been cut. Six birds systematically moved across the area feeding on insects. I was surprised that the birds were so tame, merely dodging people walking to and fro." Mrs. Peterson also reports seeing several in the vicinity of Madison in western Minnesota in mid-May. The *western grebe* is increasing in western Minnesota and extending its range eastward. As many as 30 or 40 were seen in Lake Traverse in June by Messrs. Erickson and Berthel, and Mr. T. Surber reported a pair in Lake Christina and 3 in Pelican Lake on June 23 and 24 under conditions indicating they were nesting. Mr. Tilford Moore of Saint Paul reports seeing a *brown thrasher* feeding 3 *cowbirds* on July 1, a very surprising happening. Dr. Lakela saw 3 or 4 *Hudsonian curlews* on the Point August 1 with 8

still sandpipers and several Baird's sandpipers. Miss Edgar finally located the nest of the pair of tufted titmice at Marine on St. Croix July 22, and later the pair brought 3 young to the feeding station near her home. This is a record for Minnesota. Dr. Lakela of Duluth writes that "the evening grosbeaks were last seen May 30, salt and sunflower seeds failing to keep them in the campus glen." This grosbeak is believed to nest in similar country along the north shore of Lake Superior, but has not yet been located there.—THOMAS S. ROBERTS, Director, Minnesota Museum of Natural History, University of Minnesota, Minneapolis, Minn.

NORTHERN GREAT PLAINS REGION

Temperature considerably below normal in June, slightly above normal in July. Precipitation well above average.



Over 10 inches of snow fell at some points in western North Dakota June 3, forming drifts over

4 feet high on Highway No. 2 in Mount-rail County. Snow and cold rain extended well into central portion of state.

The combination of rain, hail, snow, high winds, and cold weather resulted in some mortality and considerably reduced hatches of both ground and tree-nesting birds in central and northwestern North Dakota. Flycatchers, swallows, and young robins were found dead after snow-storm at Minot and Lower Souris.

Staunton reported loss of goose nests, considerable destruction of nests of arboreal species and death of many ducklings due to June rains, wind and hail in vicinity of Waubay, S. D. Kenmare (N. D.) received 1.50 inches of rainfall in 30 minutes June 20. This destroyed a great number of nests.

All lakes, potholes and sloughs maintained the high water levels reached this spring. There has been, therefore, either

a general decrease in or absence of botulism at most areas. Unfortunately, the malady has appeared in some newly-flooded places.

All resident marsh birds have been more widely dispersed, so that the larger, more stable bodies of water have nearly all experienced a decrease in nesting populations. Considering the region as a whole, reproduction of water fowl and upland game birds will be about normal.

Uncommon Records—A pair of cinnamon teal at Lower Souris, seen intermittently between June 6 and July 2, may have nested. A king rail at Sand Lake, July 27 (Beed). Hazeltine and Hotchkiss observed a yellow rail on Medicine Lake Refuge, July 24, 2 ruddy turnstones, July 21, and 3 knots during the period July 20-24. From the Minot area, Miss Perna Stine reports 2 nests of black-headed grosbeaks, an indigo bunting, July 17, and a Harris's sparrow, July 5. Nelson's sparrows were found in the Medicine Lake area latter part of July.

Local increases reported as follows: western grebes and Forster's terns (the latter nested on floating islands of vegetation) at Sand Lake (Beed); Sprague's pipit nesting more commonly near Minot (Stine); great blue herons (fall birds), sora, burrowing owls and bobolinks at Tower City (Preston); Virginia rails at Lower Souris.

Western grebes continued their spectacular water "walking" performance through July at Des Lac's Refuge, a house wren nesting in a bank swallow hole there (Dr. and Mrs. Gammel). The red-shafted flicker which mated with a yellow-shafted female at Minot hatched 7 young, 3 were banded. "The young were typical yellow-shafted, except for a slight touch of red in the center of the black malar patches of three of the young birds" (Stine). Typical of its habits elsewhere, Miss Stine received several reports of the rose-breasted grosbeaks' fondness for garden peas, also many reports of its capacity for potato beetles. O. A. Stevens offers this interesting note: "I spent two days in North Roosevelt and was interested to see chickadees. That is only about 50 miles from where Audubon's party

collected the type of the long-tailed chickadee, 100 years ago."

Dickcissel—These were found along Highway #10 (North Dakota) between Fargo and Hebron by Stevens, who reported them unusually abundant in some localities. They were absent at Tower City, which is along this line (Preston). Hotchkiss found them extending over 100 miles west of the North Dakota line, between Medicine Lake and Glasgow, Mont. None reported from the Minot or Lower Souris areas, where they were common in 1939 and 1940.

Lark Bunting—Common at Minot, Kenmare, Lower Souris, Tower City and northeastern Montana, and generally more abundant and widely distributed than in years.—M. C. HAMMOND, *Lower Souris Refuge, Upham, N. D.*

UTAH REGION

Few Audubon Society localities have such a variety of bird habitats as the Salt Lake City region. Salt, alkaline and freshwater lakes and marshes; semi-desert adjoining ir-

rigated farm lands, hills and rugged mountains rising abruptly from the valley floor of 4,200 to over 11,000 feet gives a summer habitat span from desert (inhabited only by horned larks) to the home of the black rosy finch close to snowbanks in the higher mountains.

The regular July field trip of the Utah Audubon Society to Brighton is near one of these extremes of habitat. This area is in a glacial cirque whose lowest point, Silver Lake, is 8,720 feet and surrounded by a horseshoe of rugged crests and peaks rising from 10,000 to 11,600 feet and roughly four miles from crest to crest.

Life zones include transition and Hudsonian with a similar flora and limited avifauna of central Canada, foremost being the white-crowned sparrow with Lincoln's a close second.

Here also are found several widely

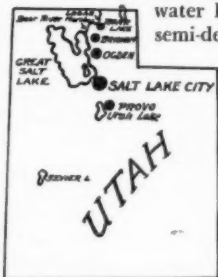
ranging breeders such as the robin and chipping sparrow which find in this altitude an equivalent of the more northern latitude, though they nest a month later than in Salt Lake valley, 15 miles distant.

The Society list for July 11 is fairly representative of like areas throughout the Wasatch Mountains. Ruffed grouse, 1, spotted sandpiper, 3, broad-tailed humming-bird, 14♂, red-shafted flicker, 1, red-naped sapsucker, 2, Natalie's sapsucker, 2 downy woodpecker, 1, western flycatcher, 1, Hammond's, 1, Wright's flycatcher, 3, pewee, 8, violet-green swallow, 1, Clark's nutcracker, 4, mt. chickadee, 5, water ouzel, 1 (Dewey). With exception of nuthatch and siskins, the following are singing males; robin, 20, hermit thrush, 2, olive-backed, 13, solitaire, 1, ruby-crowned kinglet, 9, warbling vireo, 11, red-breasted nuthatch, 2, orange-crowned, 3, Audubon's, 8, Macgillivray's warbler, 1 (Dewey), western tanager, 1, black-headed grosbeak, 1, Lazuli bunting, 2, purple finch, 6, siskin, 100's, red crossbill, 2 (Dewey) green-tailed towhee, 3, gray-headed junco, 5, chipping, 6, white-crowned, 16, Fox, 3, Lincoln's Sparrow, 6. To this should be added some regulars that were not found this year: hairy woodpecker, house and rock wrens, mountain bluebird, pine grosbeak. Absence of these and a slight decline in the numbers of others may be in part due to collecting in this area during the summer. Though ever so few, it shows its effect in so small a territory.

Most of these absent birds, however, were noted in a parallel canyon on July 4.

Mountain nesting birds: solitaire brooding, mt. bluebird feeding young, chipping sparrows out of nest, in Alta, July 4, robin with slightly-fledged young July 11, Brighton, and Prof. A. M. Woodbury reports the Macgillivray's warbler with young out-of-nest, 17th, gray-headed junco nest with young half feathered, 18th, in Mill Creek canyon.

On July 18, Mrs. Lockerbie and I accompanied Mr. and Mrs. T. A. Dewey to Bear River Refuge. Not since the refuge was built in 1928 have I seen such an abundance of water, or ducks so scarce



for observation along the dikes. Ordinarily the water has receded far from the vegetation forcing all waterfowl into deep channels along the dikes or open ponds and thus into view.

There a great contrast of breeding birds was in evidence. Thousands of northern breeding shore-birds had returned although western grebes were still carrying tiny young on their backs, many coot families were in the red-bill stage, mallards and red-heads with newly-hatched young were present, a gadwall and cinnamon teal were still laying July 15, and several other ducks were brooding under observation by the refuge staff.

High water and the consequent flooding of nests doubtless account for much of this late nesting as grown and nearly-grown birds were observed among all the refuge nesting birds.

Nesting colonies noted or under observation by the staff include: great blue heron, 50 nests; snowy egret, 2 colonies, 150 and 125 nests respectively; night heron, 50 nests; white-faced glossy ibis, 2 colonies, 600 and 75 respectively; Franklin's gull, 1 colony, 150 nests; Forster's tern, 73 nests on North Island, cliff swallow, 221 nests, cormorant and California gull reported in last issue.

Northern migrants observed by party on above date were: greater yellow-legs—25, lesser—20, Baird's sandpiper—100, western sandpiper—200, dowitcher—2,000, godwit—50, northern phalarope—2, though calls indicated more in flocks of several hundred Wilson's phalarope and peeps. Of the local breeding shore-birds, avocets were most abundant, stilts and killdeer, fairly common, snowy plovers not observed. Willets nearly all gone and only a few long-billed curlew and 1 spotted sandpiper were seen foraging in the flats east of the refuge. Forty species were listed in the drive around unit #2.

Dr. L. D. Pfouts visited Rock Island in Utah Lake July 4, and found the colony of California gulls about ready to fly. No count was made this year but in the past contained about 9,000 pairs.

Two late nesters should be noted, one pair of golden eagles, June 13, observed carrying nesting material to a cliff less

than 3 miles from our state capitol building, and a warbling vireo on the University campus, discovered by Miss Mary Moorhead, the middle of July, still brooding July 27, when I observed it. Young have since left the nest.—CHARLES W. LOCKERBIE, 223 West 9th South St., Salt Lake City, Utah.

TEXAS COASTAL REGION

The Weather—The season was abnormally hot and dry. Scattered rains early in June and July, and a cooling norther



July 15-16 broke drought and heat occasionally. A fierce hurricane swept through Galveston Bay area on night of July 27-28, preceded by two days of rain and northeast wind, followed by two days of torrential southeast rains.

General Conditions—June and July are always the worst bird months on the Texas coast. Few new species appear after May; practically all spring migrants and wintering species have disappeared by mid-June; many nesting species that winter to the south have completed their family duties by mid-June and have departed; and even the permanent residents (jays, mockingbirds, cardinals, etc.) vanish quietly into thickets and bottom lands where they can find relief from drought and heat, and moult in safety. Only at the great rookeries are birds much in evidence during these months; but even these places are rapidly depopulated as the young depart, and are all but birdless by end of July. The season this year was typically poor.

Few bird casualties resulted from the hurricane, and damage to the population was not great. Most young birds had already left the nest, and those on the wing took care of themselves.

Several species were able to bring off delayed broods.

Breeding—White pelicans nested again on the Audubon sanctuary at Second Chain-of-Islands, a phenomenon reported

in previous years, but still remarkable. Young and eggs were reported as follows: 3 young with mother mottled duck, Houston, July 25; Florida gallinule on nest with small young, Houston, July 11; brood of bob-white big enough to fly, Cove, July 9; newly hatched killdeer, Cove, June 20; 2 nestling yellow-billed cuckoos dead under tree the day after the hurricane, Cove, July 28; 2 screech owls (red and gray phase) just out of nest, barely able to fly, Houston, July 23 (these survived the hurricane); newly-hatched mourning doves, Houston, June 24; nestling Carolina wrens, Cove, June 30; red-wing nest with eggs, Houston, June 23; cardinal nest with eggs, Cove, July 10. Except for the owls, all these represent delayed or second broods.

Migrations—Four types of migration occur at this season in the Texas coastal area. First, a few wintering birds or spring migrants still appear in June. Some this season were sharp-shinned and sparrow hawks, Sheldon, June 20 (very late); red-eyed vireo, Cove, June 1. Second, several migratory species which have bred in the region all but disappear from inland areas in late June and July. (These species reappear in late August or September, and remain in evidence till late October.) July 7, nighthawks and purple martins in small compact flocks migrating southward at Houston; by end of month these species, and ruby-throated hummingbird, eastern kingbird, crested and scissor-tailed flycatchers, parula warbler, summer tanager, painted bunting, and lark sparrow had vanished. Third, a few species presumably having bred to the south or west invade the area. Thus McKay reports first wood ibis at Cove, July 3; glossy ibis, July 10; Forster's tern, July 28. Fourth, autumn migrants from the north begin appearing. Some arrival dates follow: semipalmated plover, Cove, July 28, Rockport, July 30; piping plover, Rockport, July 30; solitary sandpiper, Cove, July 24, Rockport, July 30; spotted sandpiper, Rockport, July 27; western sandpiper, Rockport, July 26; semipalmated sandpiper, Rockport, July 16; least sandpiper, Cove, July 28, Rockport, July 16; marbled godwit, Rockport, July 30;

tree swallow, Cove, July 23. Note that most of these dates cluster about the hurricane period with its wild northeast winds.

Of Special Interest—Mrs. Hagar reports a flamingo on the Second Chain-of-Islands, July 27. Representatives from the San Antonio Zoo and the Texas State Game Department also saw it. Perhaps the bird was blown in by the hurricane; but was about 100-125 miles south of where the hurricane struck on the same day the bird was seen. The hurricane had been coming for several days from east-southeast of Galveston, and strong coastal winds blowing out toward it, not in from it. Furthermore, at the exact time when the hurricane was striking about Galveston, "there was not even a sprinkle" at the Second Chain, and no wind or anything else to indicate a hurricane. Therefore, the hurricane does not fully explain the flamingo's presence. —GEORGE G. WILLIAMS, *The Rice Institute, Houston, Texas.*

SAN FRANCISCO REGION

Weather cooler than usual, clear, most of period. June temperature was lowest in forty-seven years. Birds reflected this



favorable condition by repeated nestings and successful bringing off of broods. Many plants green long after normal growing season; buckeyes still had leaves at end of July. Late in the month, however, an interval of

100° temperatures abruptly closed nesting season for most birds and greatly diminished activities of all of them.

The year has been good both for water birds that nest in the region and early migrants. Eared grebe, north of Dumbarton Bridge, 6 to 8 on June 2 (Allen); white pelican, Dumbarton Bridge, about 100 June 9 (A.); brown pelican, Bird Island, Point Lobos, 41

downy young July 3, indicating another good season for this colony (Williams); green heron, Los Gatos, July 21 (A.); American bittern, Quincy, few from June 21 to August 1 (England); black-bellied plover, Alameda shore, 1 on July 4 and 9, a few July 24 (Kelly); long-billed curlew, Dumbarton Bridge, 30 to 40 at low tide July 10 (A.); Hudsonian curlew, Alameda shore, 2 on July 4, a few July 9 and 24 (K.); wandering tattler, Point Lobos, 3 on July 17 (W.); least sandpiper and western sandpiper, Dumbarton Bridge, about 100 of each species at low tide July 10 (A.); dowitcher, Alameda shore, many July 9, increased by July 24 (K.); avocet, Dumbarton Bridge, 2 on June 2, a few June 9, young two-thirds grown July 5, abundant at tide line July 9, low tide (A.); northern phalarope, Dumbarton Bridge, 1 on June 2, about 200 July 10 (A.); ring-billed gull, Dumbarton Bridge, about 20 on June 2 (A.); California murre, near mouth of Bixby Creek, Monterey County, more than 500 in colony June 29, apparently a slight increase over 1940 (W.).

Reports below show extended nesting season for many species as well as nestings, in some examples, in new localities. Significance of some records is apparent when comparison is made with earlier years. Sparrow hawk, Oakland, young left nest box June 7, later than in other years (Seibert); Wilson's snipe, Quincy, pair nesting, June 26 to July 25, last seen with 3 young (England); hairy woodpecker, near Mosswood Road, evidently nested, for the birds were heard almost daily (Allen); rough-winged swallow, near Lake Temescal, nesting in hole in concrete bank on June 17 (S.); cliff swallow, Berkeley, still feeding young in nest July 9 (A.); chestnut-backed chickadee, Boulder Creek, many families on June 10, family with young teasing to be fed and large flock with young independent June 28 (A.); robin, Carmel, through the period seen frequently in one section, often singing, and a spotted-breasted juvenile near mouth of Carmel River on June 30 (Williams); hermit thrush, Redwood Regional Park, Oakland Hills, juvenile on June 18 (S.); warbling vireo,

families out of nest at Cordonices Park, Berkeley, June 8, and Boulder Creek, June 30 (A.); black-throated gray warbler, Boulder Creek, family in oaks on July 16 (A.); pileolated warbler, Boulder Creek, family out of nest June 10 (A.); spotted towhees, Boulder Creek, still taking food to nest July 31 (A.).

Movements after nesting season and occurrence in unexpected places are reflected in reports assembled in this paragraph. Items of this sort attract busy observers and keep them in the field. Marsh hawk, Carmel, brown one on July 5 (Williams); raven, Golden Gate Park, June 12 (Kelly); chestnut-backed chickadees and red-breasted nuthatch, Regional Park, Berkeley, July 11 (K.); pygmy nuthatch, Boulder Creek, family near cottage for first time this summer on June 28 (Allen); wren-tit, Boulder Creek, first one in the garden July 31 (A.); varied thrush, Piedmont, 1 in garden beginning July 29 (Gordon Reynolds); hermit thrush, Hastings Reservation, young one recently out of nest on July 12 (Linsdale); cedar waxwing, San Francisco, 1 on June 1 (Webb); yellow-breasted chat, upper Leona Canyon, Oakland, seen twice in the summer by Mr. Carriger (S.); tricolored red-wing, two miles up Carmel Valley, adult male on June 1 and July 26 (W.).

Despite paucity of records enough observations have been reported to indicate changes in status of several species. In some instances the increase or decrease has been evident locally for several months. The following species have been observed in at least two localities as more abundant than in other years: olive-sided flycatcher, bush-tit, chestnut-backed chickadee, russet-backed thrush, Hutton's vireo, and brown towhee. Noted as present in lesser number than in previous years are: Anna's hummingbird, Allen's hummingbird, red-shafted flicker, other woodpeckers, and lazuli bunting. A valuable report on such changes observed over a thirty-year period on a Berkeley hillside was published by Mrs. Allen in the July issue of *The Condor*.—JEAN M. LINDSALE, *Hastings Reservation, Jamesburg Route, Monterey, Calif.*

SOUTHERN CALIFORNIA REGION

Weather continually mild with temperatures averaging exactly normal; hottest spell, July 22-28, reached maximum



of 90° at Los Angeles and 100° farther inland. Most nesting being over by then, there was little effect on bird life except that rapid drying of brush areas caused

many birds to seek better feeding grounds. Practically no rainfall, even in mountains, where many species nested commonly near springs and streams but few on open pine-clad slopes.

Land Birds—Nesting—In the last few years the band-tailed pigeon has become a commoner breeding bird in Pasadena residential area oaks than in near-by high mountains; one nest still with young on August 7 in Altadena (W. I. Allen). At Santa Barbara the Hutchins found a rufous-crowned sparrow's nest, June 13, a difficult task according to old-time nidologists. Along upper Santa Inez River, July 19-24, 3 pairs of least vireos were feeding young (Rett). At Lakeside, a cowbird's egg was laid in a brown towhee's nest so late that it hatched two days after the towhee's, resulting in death (starvation?) of young cowbird in one day, but the towhees all left nest on June 5 (Gander).

Owls—Burrowing and barn owls are becoming adapted to city life. *Speotyto* nests in concrete culverts under sidewalks, dry, of course, in So. California in summer; one was found dead in Redondo Beach with black (cat?) fur in talons (White). *Tyto* favors spaces behind dead leaves of tall fan palms; Mrs. Stults watched one pair in July feeding a large rat every 20 minutes to full-grown young of their second brood.

Hawks—White-tailed kites near San Gabriel River Sanctuary, present since last November, nested successfully. The three young, hatched about May 6 or 7,

were banded and color banded by Frank G. Watson May 25; one left nest on June 12 and all three were with parents in vicinity on 21st. A duck hawk also at S.G.R.S., July 11 and August 8, is noteworthy. Cooper's hawks nested for third year in Griffith Park, Los Angeles city, 3 young in nest, June 12 (S.). In the San Gabriel Mountains sharp-shinned hawks recorded in upper San Antonio Canyon and Buckhorn Flats; red-tailed hawk nest with young, June 5, at Chilao. At least 4 pairs golden eagles in San Gabriels and 1 pair over Santa Ana Canyon in San Bernardino.

Many people vacationed in local mountains instead of traveling farther to the high Sierras, resulting in some much-needed ornithological work especially in the San Gabriel range. There, just within the pines at Charlton Flats and Chilao in early June, Mrs. Harlan Eckler and the writer separately found many species nest-building or incubating, including western wood pewee, olive-sided flycatcher, violet-green swallow, blue-fronted jay, pygmy nuthatch, western bluebird, chipping sparrow, and Lawrence's goldfinch. Mountain chickadees and white-headed woodpeckers had young in nests; robins, young out of nests, 1 pair with 1 egg of second (?) set (Eckler).

At Buckhorn Flats well within transition zone near crest of San Gabriels, a tumbling stream and abundant flowers and insects created quite a bird concentration. Here in early June common singers were Cassin's purple finch, Audubon's warbler, green-tailed towhee, and Stephen's fox sparrow, with Townsend's solitaire, red-breasted nuthatch, and Clark's nut-cracker nearby. In late June many species were nesting here (Eckler), with most young out by end of July (Stultz, Shearer), approximately three weeks later than at Chilao, 1,000 feet lower. Especially large numbers of young western bluebirds and juncos; purple martin, 1 pair at Charlton raised 2 broods, 1 pair at Buckhorn with young in nest, August 1 (Stultz). Numbers of warblers that nest chiefly at lower altitudes (yellow, black-throated gray, lutescent) plus bush-tits, green-backed goldfinches, and a brown

towhee at Buckhorn in late July indicate a definite up-mountain movement.

In upper San Antonio Canyon farther east in the San Gabriels on July 4 the prevalence of red-breasted sap-suckers, several with young out of nests, as the woodpecker was outstanding; no white-headed woodpeckers. A sparrow hawk at 7,700 feet in dry open pine forest, second year of occurrence in this unusual situation (Watson); Wright's flycatcher, 8 heard in $2\frac{1}{2}$ miles; Traill's and western flycatchers 100 yards apart in lower canyon (2,700 feet) but each in respective habitat—dense willow thicket, and tall alders.

At the Big Pines Park in northeast San Gabriels, July 11, Harwell, Stultz, and Groner found much the same birds as at Buckhorn late in July—but in addition: 2 male hermit warblers (either fall migrants two weeks early or possible summering individuals); a Lincoln's sparrow in a likely-looking breeding (?) location; 1+ male Allen's hummingbird; and a pygmy owl "captured" by Harwell's keen ear.

Reporting from the best and most varied of our mountain areas, the San Bernardinos, Miss Ruth Price lists essentially the same species as above from the pines at Big Bear Lake, but green-tailed towhees, mountain quail, and Pacific nighthawks commoner here than in San Gabriels; white-headed woodpeckers less so. The Combs heard a hermit thrush near Big Bear, June 26. At Baldwin Lake, southern California's only known yellow-headed blackbird colony still thrives; Say's phoebes and Brewer's sparrows nest on sage flats; and 50+ mountain bluebirds (mostly immatures) found by Harwell party, July 18, and piñon jays reported by Miss Price.

Water birds nesting at Baldwin Lake included coots, a few eared and pied-billed grebes, and probably cinnamon teal, ruddy ducks, black-crowned night herons, and sora rail (1 adult, 1 imma-

ture-Price). Fall migrants included greater yellow-legs, Wilson's snipe, and 1 solitary sandpiper in July; and ring-billed gulls from July 30 on. Most unusual was a female American merganser at Big Bear from July 18 into August.

Little birding was done along the coast in June. At Redondo Beach, Mrs. White saw first Heermann's gulls (2 adults) on June 8, and they had increased to hundreds at Santa Monica by late July (Eckler). First real return shore-bird migration on July 5-6, with small groups of willets and marbled godwits at Redondo and La Jolla; somewhat increased numbers by July 19 indicated by Mrs. Stultz's records from only 1 hour at Buena Vista Lagoon near Carlsbad: great blue herons and egrets common; greater yellow-legs, 35; least sandpiper and sanderling, 200 each; western sandpiper, 50; marbled godwit, 20; avocet, 40; Forster's tern, 15; Caspian tern, 10. Breeding pied-billed grebes, ruddy ducks, and least terns apparently prospering there, 100 to 200 of each along with 500 coots and 70 black-necked stilts which also nested at Newport Bay, Huntington Beach, Boles Chica, Playa del Rey, and an inland marsh north of Bakersfield (Stultz, *et al.*) First wood ibis, July 15, at Lakeside (Gander), 50+ at Carlsbad, July 19 (S.). An early wandering white pelican at Santa Monica in late July (Eckler). First of the ducks, 200 pintails, arrived at Newport Bay in late July (Mrs. Hoxsie Smith).

Great Rarities—Pectoral sandpiper, 4 in Mojave River near Victorville, July 18 (Cogswell); black swift, 1 flying in Cow Canyon at 5,000 feet altitude in San Gabriel Mountains, July 4 (Watson, Cogswell, Westfall), compared in size with violet-green swallows in view through 10x binoculars at same time (Watson); black and white warbler (Shearer) in late July; and ruby-crowned kinglet (Stultz) on August 1 near Buckhorn Flats.—HOWARD L. COGSWELL, 3807 Sierra Grande St., Pasadena 8, Calif.

Audubon Magazine's Seventh Breeding-Bird Census

Edited by
MARGARET B. HICKEY

HOW are our native birds faring in wartime? Careful counts on 6 study areas indicate that the breeding population increased from 5% to 20% in 1943; on 6 others, the population went fully as far down. Nearly all the census-takers east of the Mississippi were struck by the remarkably wet character of last spring, as well as by the severe drought that followed it. It will be interesting to note the effects of these unseasonable conditions on the bird population that returns to breed in 1944.

Among the 15 repeat-censuses submitted this year, Dr. Arthur B. Williams heads the veterans with an 11-year count, Wendell P. Smith being second in this respect and Dr. L. H. Walkinshaw third. The new study areas described here for the first time include a small isolated stand of mature hardwoods in Alabama (R. S. Willingham, Jr.), an oak-hickory woodland in Ohio (H. E. Wallin), a dry oak-maple forest in Pennsylvania (Shuette and McCormick), cut-over areas in New Hampshire (V. H. Wallace) and Ohio (P. A. Stewart).

Some very interesting facts about the numbers of various species are also included in the reports that follow. Nine nesting pairs of ruby-throated hummingbirds on a 10-acre tract (Willingham) set something of a record. Seven pairs of crested flycatchers in a 24-acre forest (Dandridge) also seems to be remarkably high for this noisy species. Forty pairs of house wrens in a 56-acre oak-maple woodland devoid of nesting boxes is even more phenomenal (Johnston, Seibert, Ken-deigh). Of especial interest, too, is the very high density currently reached for all species in the white pine-hemlock forest studied by Mr. Smith (census no. 20). Contrary to expectations, the bird life there is now richer than in most of the deciduous woodlands published in this report. The study area involved thus shows belated but spectacular effects of a hurricane that struck in 1938.

The necessity of cutting down paper and printing costs has once again precluded the possibility of printing tables

giving all the details of each census in past years. For the present at least such summarized tables will be published on the five-year anniversaries of each census, and every five years thereafter that they are continued.

A number of persons kindly contributed interesting reports which, for purely technical reasons, could not be printed. S. Waldo Bailey and Miss Dorothy E. Snyder write that 10 acres of meadows, beaver ponds, and hardwood forest carried 200 pairs per 100 acres this year at the Pleasant Valley Bird and Wild Flower Sanctuary, Lenox, Mass. Miss Vera Carrothers found a density of 1250 breeding birds per 100 acres around the border of a small pond near Cleveland, Ohio. Mrs. Clarence Ardappe reports that 3 acres of farmyard, garden, and orchard had a density of 1300 pairs per 100 acres at Morrison, Ill. George Komorowski submitted a report on a long partially wooded valley, which could not be broken up into several censuses in time for publication. Study areas should, as a rule, be confined to a single type of habitat and be at least 15 acres in size.

Letters from census-takers reiterate time and again that the weekly counting of breeding birds on a study area contains more surprises and more fun than they had ever suspected. Why not pace off your own tract now and check the birds on it right through next winter and spring? Instructions on the selection of study areas can be obtained at any time from the census editor, who will always be glad to correspond with census-takers regarding special problems encountered.

Symbols and abbreviations: P=pair; M=male, generally singing on a fixed territory throughout the season; UM=unmated male; N=pair with nest; Y=pair seen feeding young; X=birds present. Separated by commas, these figures represent a classified basis for the number of pairs of each species: crow, 2P, 4N, 4Y=10 pairs of crows. In the tables where the densities are summarized, A=birds on the study tract, nesting there but feeding elsewhere.

PART I—BOGS AND SWAMPS

Habitat	State	Acres	Hrs. Obs.	Year	Adults per 100 Acres	+A	Contributor
1. Tamarack bog and border.	Vt.	2.8	25	1938	714	500	Wendell P. Smith
			20	1939	964	572	" " "
			20	1940	857	642	" " "
			20	1941	1072	786	" " "
			15	1942	1214	642	" " "
			15	1943	1214	714	" " "
2. Balsam-black ash bog and border	Vt.	8.3	40	1938	528	96	Wendell P. Smith
			25	1939	612	120	" " "
			25	1940	590	168	" " "
			20	1941	600	168	" " "
			20	1942	648	192	" " "
			20	1943	707	144	" " "
3. Wooded alder swamp and pond	Vt.	20	10	1942	450	70	Wendell P. Smith
			10	1943	470	90	" " "

1. TAMARACK BOG AND BORDER. A small (.93 acre) bog at Wells River, Vermont, and 1.87 acres of bordering woods and pasture, fully described in previous reports, and censused since 1938. Coverage: April 25; June 13, 23; July 6, 11, 18, 26; and frequent observations throughout the season. Hours varied from 5 A.M. to 9 P.M., and totaled 15. Census, pairs nesting and feeding within the study area (* indicates permanent resident): e. wood pewee, 1P; black-capped chickadee, 2Y; red-breasted nuthatch, 1P; e. hermit thrush, 1Y; veery, 1P; blue-headed vireo, 1Y; black and white warbler, 1P; Nashville warbler, 1Y; magnolia warbler, 1Y; myrtle warbler, 1Y; black-throated green warbler, 1Y; blackburnian warbler, 3Y; oven-bird, 1Y; redstart, 1Y. Total: 14 species, 17 pairs. Density: 607 pairs per 100 acres (357 in 1938, 482 in 1939, 429 in 1940, 536 in 1941, 607 in 1942). Census pairs nesting on area, but apparently feeding elsewhere: n. flicker, 1Y; n. downy woodpecker, 1Y; e. robin, 2Y; n. pine siskin, 1Y; e. goldfinch, 1P; slate-colored junco, 1Y; e. chipping sparrow, 2Y; white-throated sparrow, 1Y. Total: 8 species, 10 pairs. Density: 357 pairs per 100 acres (250 in 1938, 286 in 1939, 321 in 1940, 393 in 1941, 321 in 1942). Grand total: 22 species, 27 pairs. Final density: 964 pairs per 100 acres (607 in 1938, 765 in 1939, 750 in 1940, 929 in 1941, 929 in 1942). Frequent visitors: e. hairy woodpecker, 1Y; e. crow, 1Y; e. robin, 1Y; red-eyed vireo, 1P; n. pine warbler, 1P; slate-colored junco, 1Y; e. song sparrow, 1Y. Total: 7 species, 7 pairs.—WENDELL P. SMITH, Wells River, Vt.

2. BALSAM-BLACK ASH BOG AND BORDER. A small 2.84-acre bog and border of 5.5 acres located at Ryegate, Vermont, fully described in 1938 and 1939, and censused since 1938. The 1938 hurricane blew down a few trees, admitting more light. Except for a late start, the 1943 breeding season was normal. Coverage: May 18; June 3; July 4, 11, 25; August 5. Hours varied from 5 A.M. to 9 P.M., and totaled 20. Thorough coverage was supplemented by fractional observation during the season. Census, pairs nesting and feeding for the most part within the study tract (* indicates permanent resident): *Canada ruffed grouse, 1Y; n. flicker, 1Y; e. hairy woodpecker, 1Y; n. downy woodpecker, 1P; e. wood pewee, 1Y; black-capped chickadee, 2Y; red-breasted nuthatch, 1Y; brown creeper, 1Y; e. winter wren, 1UM; e. hermit thrush, 2Y; veery, 1Y; e. golden-crowned kinglet, 1Y; blue-headed vireo, 1Y; black and white warbler, 1P; magnolia warbler, 1Y; myrtle warbler, 1P; black-throated green warbler, 3Y; blackburnian warbler, 3Y; oven-bird, 1Y; Canada warbler, 2Y; Am. redstart, 1Y; scarlet tanager, 1Y; e. purple finch, 1Y. Total: 23 species, 29.5 pairs. Density: 354 pairs per 100 acres (264 in 1938, 306 in 1939, 295

in 1940, 300 in 1941, 324 in 1942). Pairs nesting within the study area, but feeding to quite an extent outside it: n. crested flycatcher, 1Y; *n. blue jay, 1Y; e. crow, 1Y; e. robin, 1Y; slate-colored junco, 1Y; white-throated sparrow, 1Y. Total: 6 species, 6 pairs. Density: 72 pairs per 100 acres (48 in 1938, 60 in 1939, 84 in 1940, 84 in 1941, 96 in 1942). Grand total: 29 species, 35.5 pairs. Final density: 426 pairs per 100 acres (312 in 1938, 366 in 1939, 378 in 1940, 384 in 1941, 420 in 1942). Frequent visitors: red-shouldered hawk, 1P; e. whip-poor-will, 1P; *n. pileated woodpecker, 1P; e. crow, 1Y; wood thrush, 1P; e. hermit thrush, 1P; red-eyed vireo, 1P; oven-bird, 1P; slate-colored junco, 1P; chipping sparrow, 1P; white-throated sparrow, 1P. Total: 11 species, 11 pairs.—WENDELL P. SMITH, Wells River, Vt.

3. WOODED ALDER SWAMP AND POND. An ungrazed tract of 20 acres containing a shallow pond of 3 acres, almost dry in summer; located in Newbury, Orange County, Vermont; fully described and censused for the first time last year. Larger forms of vegetation consist mostly of shrubs; 75% is comprised of hoary alder. Coverage: May 4, 23, 30; June 25; July 18. Total hours, 10. Census, pairs nesting and feeding largely within the area (* indicates permanent resident): pied-billed grebe, 1P; black duck, 2P; wood duck, 1P; *Canada ruffed grouse, 1Y; alder flycatcher, 3Y; black-capped chickadee, 1Y; catbird, 1Y; veery, 1N, 3P; cedar waxwing, 2P; red-eyed vireo, 2P; black and white warbler, 1P; chestnut-sided warbler, 2Y; oven-bird, 1Y; n. yellow-throat, 4Y; Am. redstart, 4Y; e. red-wing, 4Y; rose-breasted grosbeak, 1Y; indigo bunting, 1Y; swamp sparrow, 5Y; e. song sparrow, 6Y. Total, 20 species, 47 pairs. Density: 235 pairs per 100 acres (225 in 1942). Pairs nesting on area, but securing much food elsewhere: black-billed cuckoo, 1N; n. downy woodpecker, 1Y; e. kingbird, 1Y; e. crow, 1Y; e. robin, 2Y; Baltimore oriole, 1Y; e. goldfinch, 2P. Total: 7 species, 9 pairs. Density: 45 pairs per 100 acres (35 in 1942). Grand total: 27 species, 56 pairs. Final density: 280 pairs per 100 acres (260 in 1942). Frequent visitors: n. flicker, 1Y; e. bluebird, 1Y; e. red-wing, 2Y; indigo bunting, 1P.—WENDELL P. SMITH, Wells River, Vt.

4. PRAIRIE-TYPE FIELD. A high, old field laid out in building lots. An area of approximately 28.3 acres, described and censused for the last 2 years, and located at Shaker Heights, Cuyahoga County, Ohio. Water: None. Edge: Similar to the area under study. Coverage: April 25; May 30; June 9; July 5. Total, about 8 hours. Census: upland plover, 2P; bobolink, 5P; meadowlark, 3P; red-wing, 1Y; grasshopper sparrow, 2P; Henslow's sparrow, 1P; vesper sparrow, 1P; field spar-

PART II — FIELDS AND CUT-OVER AREAS

Habitat	State	Acres	Hrs.		Adults per 100		Contributor
			Obs.	Year	Acres		
4. Prairie-type field	Ohio	28.3	15	1941	114	M. B. Skaggs	
			15	1942	148	" " "	
			8	1943	134	" " "	
5. Brushy field, woodlots, and pond	Mich.	100	175	1938	242	Lawrence H. Walkinshaw	
			312	1939	292	" " "	
			256	1940	264	" " "	
			66	1941	190	" " "	
			78	1942	316	" " "	
			272	1943	296	" " "	
6. Recently cut-over eastern hardwood slope	Ohio	14.75	23	1943	773	Paul A. Stewart	
7. Partially cut-over northern hardwood slope	N. H.	23	23	1943	317	Vera H. Wallace	

row, 2P; song sparrow, 2P. Total: 9 species, 19 pairs. Density: 67 pairs per 100 acres (74 in 1942). Frequent visitors: killdeer, mourning dove, flicker, prairie horned lark, robin, migrant shrike, starling, and red-wing. Comment: The early part of the season was exceptionally wet, with rain falling on 27 days during May. This caused some pools of water to stand on the south end of the area and undoubtedly was the reason for the red-wing nesting for the first time since the area has been under study. The single pair of savannah sparrows found here last year did not return, but this species did nest in adjacent fields.—M. B. SKAGGS, Kirtland Bird Club, Cleveland, Ohio.

5. BRUSHY FIELD, WOODLOTS, AND POND. The same 100-acre farm described in detail in 1940, containing 83 acres of fields, 12 acres of woodland, and 5 acres of pond, located in Pennfield Township, Calhoun County, Michigan, and censused since 1938. Coverage: March, 1 hour; April, 3.5 hours; May, 19 hours; June, 118 hours; July, 123 hours; August (to date), 8 hours. Total, 272 hours. Weather: April, cool; May had an excessive amount of rainfall; June, July, and August were about normal, possibly slightly cooler. The pond was much higher than it has been since I have studied the area, and the water table through the entire southern part of Michigan was the highest it has been in about 20 years. Census: pied-billed grebe, 1N; green heron, 1Y; Am. bittern, 1N; red-shouldered hawk, 1N; e. bob-white, 2N, 2Y; ring-necked pheasant, 1P; sora, 1P; mourning dove, 2P; yellow-billed cuckoo, 1P; black-billed cuckoo, 1P, 1N; ruby-throated hummingbird, 1P; flicker, 2P; red-headed woodpecker, 3N; hairy woodpecker, 1P; downy woodpecker, 1P; e. kingbird, 1P, 1Y; n. crested flycatcher, 1P; alder flycatcher, 1P, 1N; e. wood pewee, 1P, 1N, 1Y; crow, 1P, 1N, 1Y; black-capped chickadee, 1P, 1N; tufted titmouse, 1P; white-breasted nuthatch, 1P; Ohio house wren, 1P; catbird, 2N; brown thrasher, 1P, 1N, 1Y; e. robin, 1P, 2N; e. bluebird, 3N; cedar waxwing, 1N; starling, 1P, 2N; red-eyed vireo, 1UM; e. yellow warbler, 1Y; n. yellow-throat, 1P; English sparrow, 4P; e. meadowlark, 4Y; red-wing, 3N, 2Y; orchard oriole, 1Y Baltimore oriole, 1Y; e. cowbird, 5P; e. cardinal, 1P, 1N; indigo bunting, 2P; e. goldfinch, 5P; red-eyed towhee, 2N, 2Y; e. grasshopper sparrow, 2P, 1Y; e. vesper sparrow, 2P, 4N; e. field sparrow, 45P (93N, 7Y), 1UM; Miss. song sparrow, 3P, 1N. Total: 47 species, 147 pairs plus 2 unmated males. Density: 147 pairs, plus 2 unmated males, per 100 acres (121 in 1938, 146 in 1939, 132 in 1940, 95 in 1941, 158 in 1942). Frequent visitors: great blue heron, 4 (feeding); Canada goose, 5 (over); Cooper's hawk, 1 (over); red-tailed hawk, 1 (feeding on area in late July); marsh hawk, over area occasionally; killdeer, over; upland plover, 1 (over in July); black tern, over in varying numbers; nighthawk, over; chimney swift, over;

prairie horned lark, over and feeding on area occasionally; purple martins, tree, rough-winged, and barn swallows, over in varying numbers; blue jay, 12 (foraging continuously through the trees, fields, and shrubs after early June; English sparrow, often in large flocks feeding on area; bronzed grackle, feeding. An olive-sided flycatcher was observed in the south woods on May 28. Comment: The high water of the pond has had interesting results during the past few years. The vegetation, very thick in the water area during 1942, was almost eliminated by higher water during 1943. This gradual change produced habitat in 1941 suitable for the short-billed marsh wren, which disappeared during 1942 and 1943. This species was replaced in 1942 by the prairie marsh wren, which disappeared with the high water along with the Virginia rail. During 1943, the red-wing became common and such birds as the American bittern, green heron, and pied-billed grebe nested there. In fact, where a field sparrow had nested in dry habitat during 1941, a pied-billed grebe's nest was found only a few feet distant where water came over my hip-boot tops in 1943.—LAWRENCE H. WALKINSHAW, 1416 W. Michigan Ave., Battle Creek, Mich.

6. RECENTLY CUT - OVER EASTERN HARDWOOD SLOPE. A recently cut-over portion of a narrow valley continuously wooded for at least 5 miles. All marketable timber was cut from the study tract in late 1940 and the brushy tree-tops left to decay. The entire valley was lightly cut over 17 years ago. The census area, an east-facing slope, supports a luxuriant plant growth, which in places becomes almost impenetrable as the season advances. Blackberry and raspberry bushes grow here and there and in places form dense tangles. Seedling trees and sprouts from the stumps are beginning to reforest the area. The principal species of trees are beech, American elm, black locust, sugar maple, basswood, and white ash. Others represented are hemlock, butternut, shagbark hickory, hop hornbeam, red, black and white oaks, cucumber, wild black cherry, silver maple, and sour gum. Although most trees more than 6 inches in diameter were cut, a few that were unsatisfactory for lumber were allowed to remain. Of these, about 10 are dead and suitable for woodpeckers, while others have knot-holes for titmice, etc. Aside from several small groves which offered nothing for the axe, the trees are rather scattered. For the most part the taller ones are little more than 50- or 60-foot poles with only slight brushy tops. Hemlock occupies an insignificant strip along the bank of the creek that flows beside the area. On the valley floor is a swampy depression where cat-tail, bur-reed, arrow-head, and other marsh-loving plants grow. This is less than a quarter of an acre in extent. Size: Approximately 14.75 acres, 14 acres being forest slashing, .40 the hard surface of a highway, and .35 a grassy highway

burn. Location: Salem Township, Columbiana County, Ohio. On Ohio State Route 344, 6/10 of a mile south of Ohio Route 45, and 8/10 of a mile north of Teggarden. Topography: The Middle Fork of Little Beaver Creek furnishes the eastern boundary for the study tract (1935 feet); it has an average width of 55 feet and a normal depth ranging from 2 to 7 feet. Except for the swampy depression mentioned above, the entire area has a rather steep slope. About half way up the hill, a hard-surfaced highway passes through the tract. Edge: Second-growth woodland to the north and west; the creek along the east side of the tract; and to some extent the highway running through the area. Surveys: Frequent visits for 18 years. A number of preliminary visits were made in the early spring, and 15 census counts made between April 20 and July 11. Several night visits were made, and additional trips following the latter date. Coverage: April 20; May 2, 7, 9, 11, 19, 20, 31; June 2, 3, 6, 13; July 4, 11 (2 visits). Total hours, 23. Weather: An abnormally abundant precipitation during May favored a lush growth of vegetation. Census: ruffed grouse, 1P; mourning dove, 1P; yellow-billed cuckoo, 1P; whip-poor-will, 1P; ruby-throated hummingbird, 2P; red-bellied woodpecker, 1N; crested flycatcher, 1P; Acadian flycatcher, 1P; wood pewee, 1N; black-capped chickadee, 1P; tufted titmouse, 2P; Carolina wren, 2P; catbird, 1P; robin, 1P; blue-gray gnatcatcher, 1P; blue-winged warbler, 1P; cerulean warbler, 1P; Kentucky warbler, 2P; yellow-throat, 2P; yellow-breasted chat, 6P; cowbird, present; scarlet tanager, 2P (1N, 1P); cardinal, 6P (3N, 3P); indigo bunting, 5P; goldfinch, 2P; red-eyed towhee, 5P; field sparrow, 5P (2N, 3P); song sparrow, 2P (1N, 1P). Total: 28 species, 57 pairs. Density: 386 pairs per 100 acres. Visitors: One pair each of the redbstart and yellow-throated and red-eyed vireos were regularly found just inside the boundary of the area, and their nesting therein was possible but not certain. Hairy and downy woodpeckers and white-breasted nuthatches had young in the area on June 16, but were believed to come from nests foreign to the tract. A pair of phoebes and a pair of chipping sparrows nested at the cottage just outside the boundary and occasionally visited the area for food. Bluebirds were listed several times and immatures of this species, as well as additional robins, came into the area on July 4. A brown thrasher was seen only on July 4. Wood thrushes and oven-birds only occasionally left the dense adjoining woods to forage in the slashing. Comment: It is unfortunate that study of this tract was not commenced before deforestation took place. The bird population has probably already made many adaptations since cutting was started. Last year flickers, downy woodpeckers, and chipping sparrows were known to nest in the area, but this year they occurred only as visitors.—PAUL A. STEWART, Leetonia, Ohio.

7. PARTIALLY CUT-OVER NORTHERN HARDWOOD SLOPE. Until cutting operations were begun in 1941, the area was a mixed stand of 40-year-old conifers and of hardwoods that had not been cut within the memory of anyone in the region. Of the conifers, only imperfect trees have been left standing. To date, approximately 1/5 of the hardwood timber has been selectively logged. It is continually being cut; 2 choppers work on and just above the tract day and night, and a small sawing machine is occasionally operated within the tract. In the order of their abundance, the trees are: red oak (*Quercus rubra*), white birch (*Betula alba* var. *papyrifera*), beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), mountain maple (*A. spicatum*), and hobble-hush (*Viburnum alnifolium*). The best oak has been cut. About 60 dead trees have been allowed to stand. Size: About 23 acres, paced. Location: New Hampton, New Hampshire, south of the lower part of the village, up the shortcut toward Gordon Hill. Topography and Water: The area is a steep hillside with a slope up to 60°. Running through the tract are 4 brooks and 3 wood roads. Edge: To the east is uncut hardwood, to the west a hardwood forest that was cut over about 5 years ago and has now grown to saplings, and to the north is cultivated land and a pine grove. Surveys: None. Coverage: May

1, 6, 8; June 2, 4, 18, 29; July 2, 6, 13, 22; August 4. Hours varied from 7.30 A.M. to 12 M., with 2 night trips. Total, 23 hours. Weather: Winter precipitation and temperatures were slightly below normal. During the spring, there were average temperatures and heavy rains in May, June and early July were warmer than usual and very dry. Census: hairy woodpecker, 1Y; wood pewee, 1P, 1N; olive-sided flycatcher, 1UM; blue jay, 1Y; black-capped chickadee, 1Y; winter wren, 1P, 3Y; robin, 2Y (4N); hermit thrush, 1Y; veery, 2Y; blue-headed vireo, 1P, 1Y; red-eyed vireo, 1P, 1Y; black and white warbler, 2Y; black-throated blue warbler, 2Y; black-throated green warbler, 2Y; blackburnian warbler, 2P; oven-bird, 3P; n. yellow-throat, 1P; Canada warbler, 1P, 1Y; scarlet tanager, 1Y; rose-breasted grosbeak, 1Y; white-throated sparrow, 2Y. Total: 21 species, 36 pairs, plus 1 unmarked male. Density: 159 pairs per 100 acres. Frequent visitors: broad-winged hawk; chimney swift; flicker, 1Y; yellow-bellied sapsucker, 1Y; downy woodpecker, 1Y; crow; red-breasted nuthatch; brown creeper; catbird; cedar waxwing; myrtle warbler, 1Y; chestnut-sided warbler; redbstart; Baltimore oriole, 1Y; purple finch; slate-colored junco, 1Y; song sparrow. Comment: Sapsuckers nested either on the area or very near, as they were observed on May 1, June 18 and 29, July 2 and 13, with 2 or 3 young. The olive-sided flycatcher was observed singing from the same perch of a lone tall hemlock only on June 2, 4, 18, and 29. On July 13, the male tanager was still present, although his usual perches had been cut; yellow spots were beginning to appear in its plumage.—VERA H. (MRS. CLINTON) WALLACE, New Hampton, N. H.

8. ISLAND OF MATURE SOUTHERN HARDWOOD FOREST. An isolated 60-foot stand of rather open timber, with considerable undergrowth in spots; composed mainly of large white oak (*Quercus alba*), tulip tree (*Liriodendron tulipifera*), black gum (*Nyssa sylvatica*), black walnut (*Juglans nigra*), sweet gum (*Liquidambar styraciflua*), and a small amount of pine. There is a small swamp in the interior of the tract. A dirt road running through the area is used by wagons every day during spring and summer. Situated in one corner is a negro's cabin, which has been there for about 10 years. Size: 10 acres. Location: In Chambers County (east-central), Alabama, 1/2 mile south of the town of La Fayette. Edge: Surrounded for the most part by small swamps, beyond which are cultivated fields of corn and cotton. Water: A small swamp in the interior of the study area, a spring, and 2 brooks which unite just outside the boundary of the tract. Coverage: April 16-25, 28, 29; May 1, 2, 6, 7, 9, 13, 15, 28, 29, 30, 31; June 1, 10, 15, 21, 25; July 3, 4, 6, 7, 10, 11, 12. Total, 45 hours. Although trips were made at all times of the day, hours usually varied from 5 to 8 A.M. and 5 to 7 P.M. Census, pairs nesting and feeding within the study area: bob-white, 2Y; ruby-throated hummingbird, 9N (feeding outside of tract in late summer); red-bellied woodpecker, 2N; downy woodpecker, 1N; kingbird, 1N; crested flycatcher, 3N; wood pewee, 2N; blue jay, 1N; black-capped chickadee, 2Y; brown-headed nuthatch, 2Y; Carolina wren, 3Y; catbird, 1N; brown thrasher, 3N, 2Y; wood thrush, 2N; blue-gray gnatcatcher, 3N; yellow-throated vireo, 2N, 1Y; red-eyed vireo, 2N, 2Y; black and white warbler, 1Y, 1N; pine warbler, 2Y; Maryland yellowthroat, 1P; yellow-breasted chat, 1N; hooded warbler, 1P; orchard oriole, 2N; summer tanager, 3N; cardinal, 2N, 1Y; towhee, 2N, 1Y. Total: 26 species, 64 pairs. Density: 640 pairs per 100 acres. Pairs nesting in area, but feeding largely elsewhere: mourning dove, 2N, 1Y; screech owl, 2N; blue grosbeak, 1Y, 2N; indigo bunting, 1Y, 1N. Total: 4 species, 10 pairs. Density: 100 pairs per 100 acres. Grand total: 30 species, 74 pairs. Final density: 740 pairs per 100 acres. Frequent visitors: Cooper's hawk, 1M; Acadian flycatcher, 1P; crow, 1P; tufted titmouse, 1P; white-eyed vireo, 2P; yellow warbler, 1P; yellow-throated warbler, 1M; Kentucky warbler, 1P; redbstart, 1PY; goldfinch, 5P. Comment: Last year 6 more hummingbird nests were seen.—ROBERT S. WILLINGHAM, JR., La Fayette, Ala.

PART III - DECIDUOUS WOODLANDS

Habitat	State	Hrs. Acres Obs.	Year	Adults per 100 Acres	+A	Contributor
8. Island of mature southern hard-wood forest	Ala.	10 45	1943	1280	100	Robert S. Willingham, Jr.
9. Upland oak and poplar (tulip tree) forest	Va.	20 64 59	1942 1943	580 430	100 70	Morton Marshall, Jr.
10. Timbered stream-bed and upland oak forest	Okla.	22 25 31 20	1941 1942 1943	254 282 223	— — —	F. M. Baumgartner " " " "
11. Sixty-foot oak, hickory, and pine forest	W.Va.	24 + +	1942 1943	508 500	— —	S. K. Dandridge " " " "
12. Oak-hickory forest.	Ohio	50 24	1943	336	—	Harold E. Wallin
13. Dry oak-maple woodland	Pa.	15.9 57	1943	717	—	C. H. L. Shuette III and Bradley McCormick
14. Oak-maple forest..	Ill.	56 + 38 57	1941 1942 1943	382 446 536	— — —	J. M. Spiers, E. J. Koestner, H. H. Shoemaker, S. C. Kendeigh T. W. Roberts, H. C. Seibert, S. C. Kendeigh Verna Johnston, H. C. Seibert, S. C. Kendeigh
15. Dense lowland beech-maple forest	Ohio	55.3 60 56 60 47	1940 1941 1942 1943	445 405 430 474	— — — —	E. O. Mellinger " " " " " " , Paul A. Stewart
16. Climax beech-maple forest ...	Ohio	65	for density summary, see p. 23			Arthur B. Williams
17. Northern hardwoods and conifers with small fields	N. H.	21 43 24 20	1941 1942 1943	562 458 762	267 181 —	Vera H. Wallace " " " "

9. UPLAND OAK AND POPLAR (TULIP TREE) FOREST. An area of about 20 acres, located 6 miles north of Pamplin, Virginia, fully described and censused for the first time last year. The northeastern corner, containing the largest percentage of pines, was cut over last summer, opening it up to deciduous undergrowth. **Surveys:** Frequent trips for the past 4 years. **Coverage:** Almost continuous watching from April to August; special trips on April 13, 19; May 5, 7, 8, 11, 22; June 8, 10, 11, 15, 24; July 5, 12, 18, 20. Hours varied from 7 a.m. to 11 p.m., and totaled 59. **Weather:** Spring was considered the most unseasonable for years. Winter extended well into April, and the retarded spring was marked by numerous freezes. Precipitation was consistently below normal. After the latter part of May, temperatures were above normal and, due to the dryness, vegetation began shedding leaves by mid-July. **Census:** whip-poor-will, 3M; downy woodpecker, 1Y; crested flycatcher, 2P; wood pewee, 2M; blue jay, 1P; tufted titmouse, 1P; brown thrasher, 1N; wood thrush, 4P; yellow-throated vireo, 2M; red-eyed vireo, 7M, 1P, 2N; black and white warbler, 1P; yellow warbler, 1M; pine warbler, 1P; oven-bird, 3M, 4P; hooded warbler, 3M, 1P, 1N; cardinal, 1P. Total: 16 species, 43 pairs. Density: 215 pairs per 100 acres. **Nesting in area, but feeding largely elsewhere:** Cooper's

hawk, 1P; red-tailed hawk, 1N; mourning dove, 1M, 1P; ruby-throated hummingbird, 2P; cardinal, 1N. Total: 5 species, 7 pairs. Density: 35 pairs per 100 acres. **Grand total:** 21 species, 50 pairs. **Final density:** 250 pairs per 100 acres (340 in 1942). **Feeding in area, but nesting outside it:** wild turkey, 1P; crow, 2A, 5Y; Carolina chickadee, 1P; white-breasted nuthatch, 1; catbird, 1P; robin, 3P; blue-gray gnatcatcher, 5Y; oven-bird, 1P; yellow-breasted chat, 1P; summer tanager, 2P; indigo bunting, 1P; red-eyed towhee, 1P. **Total:** 37 regular visitors. **Comment:** The absence of many species is thought to be due to the unseasonable weather. While most birds recorded showed the usual densities, the percentage of successful breeding is believed to be below normal. Due to failure of some early nesting attempts, and also to the late spring, breeding was behind schedule and continued into late July. The pair of wild turkeys was heard inside the census area several times; scratchings and tracks were also observed. Absence of suitable habitat and because of the birds' far-ranging habits, nesting seemed unlikely.—MORTON MARSHALL, JR., Pamplin, Va.

10. TIMBERED STREAM-BED AND UPLAND OAK FOREST. An area of 22 acres, fully described in 1941 and located on the Lake Carl Blackwell Land Utilization Project in Payne

County, Oklahoma. During May rises in Lake Carl Blackwell flooded areas in the stream-bed that had been dry all winter. A number of the trees in the stream-bed have died since last year. **Surveys:** Frequent trips since March 1939. **Coverage:** May 2, 16, 25, 29; June 20, 30; July 16; August 7. Total, 20 hours. Hours varied from 6 a.m. to 3.30 p.m. **Weather:** Winter normal; rainfall in May the heaviest on record; June and July dry. **Census:** Cooper's hawk, 1N; downy woodpecker, 1N; crested flycatcher, 2P; e. woodcreeper, 1N; plumbeous chickadee, 3Y; tufted titmouse, 1P; 1Y; Texas wren, 1Y; blue-gray gnatcatcher, 1P, 1Y; e. cowbird, 1P, 1M; e. cardinal, 2P, 1Y; field sparrow, 4P, 2Y. **Total:** 11 species, 24 pairs, 1 male cowbird. **Density:** 111 pairs per 100 acres. **Regular visitors:** bob-white, 1P, 1UM; mourning dove, 1P; barred owl, 1; red-bellied woodpecker, 1M; hairy woodpecker, 1M; e. crow, 1Y; tufted titmouse, 1Y; Texas wren, 1M; Carolina wren, 1UM; e. bluebird, 1Y; Bell's vireo, 2M; e. blue grosbeak, 1P; painted bunting, 2M, 2P; dickcissel, 2M; e. goldfinch, 2; field sparrow, 1M, 2P. **Total:** 16 species, 35 adults.—F. M. BAUMGARTNER, Oklahoma A. and M. College, Stillwater, Okla.

11. SIXTY-FOOT OAK, HICKORY, AND PINE FOREST. An area of 24 acres, located on the Dandridge farm in Shepherdstown, Berkeley County, West Virginia; fully described and censused for the first time last year. **Coverage:** Almost daily visits throughout the breeding season until July 1. **Weather:** The extremely wet season of last year was followed by a moderately wet spring in 1943; July and August were months of severe drought. **Census:** mourning dove, 2P; yellow-billed cuckoo, 3P; whip-poor-will, 2P; ruby-throated hummingbird, 1P; n. crested flycatcher, 7P; wood pewee, 4P; e. crow, 2P; Carolina chickadee, 1P; tufted titmouse, 2P; Carolina wren, 1P; catbird, 1P; wood thrush, 5P; blue-gray gnatcatcher, 3P; red-eyed vireo, 11P; worm-eating warbler, 1P; oven-bird, 4P; yellow-breasted chat, 1P; cowbird, present; scarlet tanager, 2P; summer tanager, 2P; cardinal, 1P; indigo bunting, 1P; white-eyed towhee, 1P; vesper sparrow, 1P; e. chipping sparrow, 1P. **Total:** 25 species, 60 pairs. **Density:** 250 pairs per 100 acres (254 in 1942). **Frequent visitors:** turkey vulture, black vulture, Cooper's hawk, sparrow hawk, barred owl, chimney swift. **Comment:** I presume there were more pairs of goldfinches nesting within the tract than last year (1P in 1942), as I have never seen them so abundant. A broken leg on July 1 prevented the checking of their nests this year.—S. K. DANDRIDGE, Shepherdstown, W. Va.

12. OAK-HICKORY FOREST. The area selected for this study is one of ridges and ravines with fairly steep slopes. On the ridges, white oak, red oak, black oak, and shagbark hickory predominate; on the slopes are beech, sugar maple, white ash, and other associated species. There is considerable undergrowth of seedling trees and of such shrubs as maple-leaved viburnum and red-berried elder. **Size:** Approximately 50 acres. **Location:** Cuyahoga County, Ohio, in the northern portion of the Brecksville Reservation of the Cleveland Metropolitan Park System; 14 miles south of Cleveland's public square. **Coverage:** By 1 person: May 12, 19, 26; June 2, 9, 16. **Total:** 24 hours. **Census:** ruffed grouse, 1P; ruby-throated hummingbird, 1PN; crested flycatcher, 1P; Acadian flycatcher, 2P; wood pewee, 3P; black-capped chickadee, 3P; tufted titmouse, 3P; white-breasted nuthatch, 1P; wood thrush 7P (2N, 5P); blue-gray gnatcatcher, 1P; red-eyed vireo, 10P; blue-winged warbler, 1P; cerulean warbler, 8P; oven-bird, 18P (1N, 17P); Louisiana water-thrush, 2P (1P, 1NY); hooded warbler, 4P; redstart, 8P; cowbird, present; scarlet tanager, 3P; cardinal, 3P. **Total:** 19 species, 84 pairs. **Density:** 168 pairs per 100 acres. **Regular visitors:** hairy woodpecker, flicker, crow, phoebe, robin, Cooper's hawk, indigo bunting, rose-breasted grosbeak, yellow-throated vireo, towhee.—HAROLD E. WALLIN, Cleveland Museum of Natural History, Cleveland, Ohio.

13. DRY OAK-MAPLE WOODLAND. A wooded hill that is a relic of an old dissected

plateau, on both sides several species of maple and oak predominate—sugar maple (*Acer saccharum*), sycamore maple (*A. pseudo-platanus*), silver maple (*A. saccharinum*), red maple (*A. spicatum*), and scrub oak (*Quercus ilicifolia*), yellow oak (*Q. Muhlenbergii*), red oak (*Q. rubra*), white oak (*Q. alba*), and black oak (*Q. velutina*). At the top of the hill, the most characteristic trees are common sour cherry (*Prunus cerasus*) and apple (*Fyrus malus*). Scattered over the entire tract are small stands of staghorn sumac (*Rhus typhina*), and the following species in the order of their approximate abundance: gray birch (*Betula populifolia*), American aspen (*Populus tremuloides*), white ash (*Fraxinus americana*), paper birch (*Betula alba* var. *papyrifera*), American elm (*Ulmus americana*), red mulberry (*Morus rubra*), flowering dogwood (*Cornus florida*), slippery elm (*Ulmus fulva*), wild black cherry (*Prunus serotina*), American crab apple (*Fyrus coronaria*), and common locust (*Robinia Pseudo-Accacia*). The undergrowth, which is exceptionally thick and high, consists of a number of species of brambles, briars, and bushes: dwarf sumac (*Rhus copallina*), common elder (*Sambucus canadensis*), black raspberry (*Rubus occidentalis*), shad bush (*Amelanchier canadensis*), common columbine (*Aquilegia canadensis*), and many weeds, heavy grasses, ferns, nettles, and poison ivy. **Size:** 15.9 acres. **Location:** East of Beaver Road in the borough of Osborne, Allegheny County, Pennsylvania, 12 miles northwest of Pittsburgh, on the right bank of the Ohio River. **Water:** None within the actual study area. The Ohio River is about 200 yards west of the hill's base. **Edge:** Fields to the north, south, and west; a cultivated field and farm yard to the east. Some edge effect undoubtedly results from a few open spots within the wooded study area. **Weather:** A late spring, with snow flurries up to April 15; foliage was not fully developed until late May. There were 20 days of rain in May. June was very hot with some rain. **Coverage:** By 1 or 2 observers on March 1, 5, 10, 12, 17; April 5, 8, 14, 21, 23, 26, 28, 29, 30; May 1, 3, 4, 5, 7, 8, 12, 14, 16, 18, 22, 23, 26, 28, 29, 30; June 2, 6, 17, 25. **Total hours:** 57. **Ten preliminary trips** in January and February. **Census:** yellow-billed cuckoo, 2P; n. flicker, 3P; e. hairy woodpecker, 1P; n. downy woodpecker, 4P; n. crested flycatcher, 3P; e. crow, 1P (N); black-capped chickadee, 2P (1N); tufted titmouse, 3P; white-breasted nuthatch, 2P; e. robin, 2P; wood thrush, 5P (3N); red-eyed vireo, 3P (1N); black and white warbler, 1P; oven-bird, 5P; Kentucky warbler, 5P; yellow-throat, 1P; hooded warbler, 2P; Am. redstart, 2P; e. cowbird, 3 eggs found; e. cardinal, 5P (1N); indigo bunting, 2P; redbellied towhee, 3P. **Total:** 22 species, 57 pairs. **Density:** 358 pairs per 100 acres. **Frequent visitors:** e. sparrow hawk, 1; wood pewee, 1; yellow-throated vireo, 1; cerulean warbler, 1; Baltimore oriole, 1P; scarlet tanager, 1; rose-breasted grosbeak, 1. **Comment:** The main criteria for the count were singing males, although many nests and evidences of nesting were found. The high population density is due, in part at least, to the rich undergrowth which affords a great number of nesting sites and a constant and abundant supply of food.—C. H. L. SHUETTE III and BRADLEY MCCORMICK, 523 Blackburn Ave., Sewickley, Pa.

14. OAK-MAPLE FOREST. Trelease Woods, a flat rectangular tract composed chiefly of sugar maple, red oak, American and slippery elm, white and blue ash, first described and censused in 1941. **Size:** About 56 acres, with 1 1/4 miles of narrow forest edge. **Location:** About 4 miles northeast of Urbana, Illinois. **Coverage:** April 18; May 9, 27; June 13, 20; July 4, 18; August 12; and incomplete coverage on 6 other days. **Total man-hours:** 57. **Weather:** Temperatures were normal but precipitation scanty. **Census:** Cooper's hawk, 1P; yellow-billed cuckoo, 5P; ruby-throated hummingbird, 1P; flicker, 1P; red-bellied woodpecker, 1P; red-headed woodpecker, 1P; hairy woodpecker, 1P; downy woodpecker, 6P; crested flycatcher, 7P; wood pewee, 8P; blue jay, 1P; crow, 9P; tufted titmouse, 3P; house wren, 40P (31P in 1942, 20P in 1941); Carolina wren, 1P; wood thrush, 2P; starling, 15P (12P in 1942, 9P in 1941); red-eyed vireo, 10P (14P+ in 1942, 13P in 1941); oven-bird, 1P; yellow-throat, 2P; cow-

bird, present; cardinal, 3P; indigo bunting, 27P (27P in 1942, 25P in 1941); goldfinch, 3P; field sparrow, 1P. Total: 25 species, 150 pairs. Density: 268 pairs per 100 acres (223 pairs in 1942, 191 pairs in 1941). Comment: In contrast to 1942, the indigo buntings this year occurred throughout the forest interior as well as on the forest edge. In general most species were more abundant this year than last.—VERA JOHNSTON, H. C. SEIBERT, S. C. KENDELIGH, Vivarium Bldg., University of Illinois, Champaign, Ill.

15. DENSE LOWLAND BEECH-MAPLE FOREST. An area of 55.3 acres, located 6 miles south of Youngstown, Ohio; fully described in 1940 and censused annually thereafter. The tract comprises the south-central portion of the Boardman Woods. Coverage: March 21; April 25; May 9, 16, 22, 23, 30; June 6, 13, 16, 17, 18, 20, 21, 23; July 11. Total, 47 hours. In addition, 2 nights were spent in the area for nocturnal species. R. O. Marshall and Ed. Minnich assisted in nest-hunting on 1 trip each. Census: yellow-bellied cuckoo, 1N; ruby-throated hummingbird, 2P; red-bellied woodpecker, 1N; e. hairy woodpecker, 1Y, 1P; n. downy woodpecker, 2P; n. crested flycatcher, 2P; Acadian flycatcher, 3N, 6P; e. wood pewee, 1N, 8P; n. blue jay, 2P; black-capped chickadee, 1P; tufted titmouse, 1Y, 7P; white-breasted nuthatch, 2N, 1P; wood thrush, 4N, 4P; yellow-throated vireo, 2P; red-eyed vireo, 1N, 14P; blue-winged warbler, 3P; cerulean warbler, 1N, 7P; oven-bird, 1Y, 18P; Louisiana water-thrush, 2P; n. yellow-throat, 1P; redstart, 12N, 6P; cowbird, present; scarlet tanager, 3N, 3P; e. cardinal, 1N, 3P; indigo bunting, 1P; red-eyed towhee, 2N. Total: 26 species, 131 pairs. Density: 237 pairs per 100 acres (222 in 1940, 203 in 1941, 215 in 1942). Frequent visitors: Barred owls could always be found at a certain place near the area's boundary, and probably nested nearby. Mourning doves may have nested in the area, as one could always be found somewhere. The species could not be depended upon in any one place, and thus it is possible that only one unmated bird was observed. A yellow-breasted chat was gathering food in the area on June 13. Robins and song sparrows first came in during late June. Goldfinches were listed several times and the cedar waxwing once. Crows were always present, but gave no evidence of nesting. The pileated woodpecker occasionally visited the area, but nested outside. A rose-breasted grosbeak was observed once, although it could frequently be found just beyond the boundary. Comment: Last year's nesting stub of the saw-whet owl fell, and no owls showed themselves when other trees with likely cavities were rapped. The pileated woodpecker, blue-gray gnatcatcher, and song sparrow failed to nest in the area this year. Louisiana water-thrushes bled in the area for the first time this year. An increase in breeding redstarts is the only other notable change in the 1943 nesting population.—CORFAL E. O. MELLINGER, U. S. Army, and PAUL A. STEWART, Leetonia, Ohio.

16. CLIMAX BEECH-MAPLE FOREST. A 65-acre tract with some beech-hemlock, located in Chagrin Metropolitan Park Reservation, Cuyahoga County, Ohio; described in previous reports and in *Ecological Monographs* 6:317-408, censused since 1932, with the exception of 1942. Coverage: May 11, 15, 18, 22; June 5, 8, 15, 22. Due to the small amount of time available, coverage was not so thorough this year as in other years. Reliance was placed on familiarity with the habitat. Many occasional records were supplied by Miss Alice Porter, who was on duty in the area in connection with trailside-museum operations during the spring. Census: barred owl, 1PY; pileated woodpecker, 1PY; red-bellied woodpecker, 1P; hairy woodpecker, 3P; downy woodpecker, 4P; phoebe, 1PN; crested flycatcher, 3P; wood pewee, 6P; Acadian flycatcher, 6P; blue jay, 1P; black-capped chickadee, 4P; tufted titmouse, 6P; white-breasted nuthatch, 3P; wood thrush, 5P, 1N; yellow-throated vireo, 2P; red-eyed vireo, 20P; cerulean warbler, 2P; black-throated green warbler, 3P; oven-bird, 16P, 1N, 1Y; Louisiana water-thrush, 4P; hooded warbler, 13P; redstart, 4P, 1N; scarlet tanager, 3P, 1Y; cowbird, present; rose-

breasted grosbeak, 3P; cardinal, 4P; red-eyed towhee, 1P. Total: 27 species, 125 pairs. Density: 192 pairs per 100 acres. Previous totals and densities:

	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41
Total species	26	26	23	24	23	25	28	23	23	25
Total pairs	136	174	176	133	114	123	129	118	120	131
Density pairs per 100 acres	209	268	271	205	175	189	198	182	185	202

—ARTHUR B. WILLIAMS, Kirtland Bird Club, Cleveland, Ohio.

17. NORTHERN HARDWOODS AND CONIFERS WITH SMALL FIELDS. An area of 21 acres located at New Hampton, New Hampshire, first described and censused in 1941. A shack on the tract was unoccupied this year and the cat's gone. Water: Fish Hatchery Brook Outlet runs east-west through the center of the tract; a power dam 4 miles below causes the water to back up the brook to form a large cove. Coverage: May 17, 24, 25, 26, 31; June 2, 9, 28, 29; July 2, 3, 14, 20, 21, 31; August 5. Hours varied from 7.30 to 10.30 a.m., and totaled 20. Weather: Winter was a little colder than usual, with less precipitation. Ice left the river on April 12 and the brook a week later. Temperatures were average, with heavy rains in May. June and early July were hot and very dry. There were many thunderstorms in late July, including a severe hail storm on the 22nd. Census: chimney swift, 2Y; flicker, 1Y; hairy woodpecker, 1Y; kingbird, 1Y; crested flycatcher, 1Y; least flycatcher, 1P; wood pewee, 2P; tree swallow, 1Y; barn swallow, 1Y; black-capped chickadee, 1Y; red-breasted nuthatch, 1Y; brown creeper, 1Y; catbird, 1Y; robin, 4Y (8N); hermit thrush, 3P; veery, 1P; bluebird, 1Y (2N); cedar waxwing, 1P; blue-headed vireo, 1P; red-eyed vireo, 3P; black and white warbler, 2Y; Nashville warbler, 1P; myrtle warbler, 1Y; black-throated green warbler, 3P, 1Y; blackburnian warbler, 2P, 2Y; chestnut-sided warbler, 4P, 1Y; pine warbler, 1P; oven-bird, 8P; n. yellow-throat, 2P; Canada warbler, 1P; redstart, 2P, 2Y; Baltimore oriole, 1P, 1Y; bronzed grackle, 1Y; cowbird, 1P; rose-breasted grosbeak, 1Y; indigo bunting, 1Y; goldfinch, 2P; slate-colored junco, 1Y; chipping sparrow, 6Y (10N); song sparrow, 1P, 2Y (4N). Total: 40 species, 80 pairs. Density: 381 pairs per 100 acres. Frequent visitors: great blue heron, red-tailed hawk, osprey, ruffed grouse, black-billed cuckoo, nighthawk, ruby-throated hummingbird, belted kingfisher, yellow-bellied sapsucker, downy woodpecker, phoebe, bank swallow, blue jay, crow, white-breasted nuthatch, winter wren, red-wing, scarlet tanager, purple finch, goldfinch, vesper sparrow, field sparrow, white-throated sparrow.—VERA H. (MRS. CLINTON) WALLACE, New Hampton, N. H.

18. JACK PINE BARRENS. An area of 16 acres of small jack pine and scrub oak (Kirtland's warbler habitat) described and censused for the first time in 1942. Location: In Section 19, T. 25 N., R. 4 E., Oscoda County, Michigan; tract marked with posts and stakes and registered at Mack Lake headquarters of Huron National Forest. Coverage: June 13 to 20; total, 126 man-hours. Weather: Mainly fair, moderate temperatures; season again more rainy than usual and apparently several days later than last year. Census: brown thrasher, 3N; hermit thrush, 1N; Nashville warbler, 1P; Kirtland's warbler, 1N; prairie warbler, 2P; oven-bird, 1P; cowbird, 1F, 4M; vesper sparrow, 1N, 1P; chipping sparrow, 4N, 4P; clay-colored sparrow, 1N; field sparrow, 1P. Total: 11 species, 21 pairs, plus 1 "pair" of cowbirds. Density: 137 pairs per 100 acres (178 in 1942). Frequent visitors: Cooper's hawk, 1; marsh hawk, 1; upland plover, 1P (4Y); mourning dove, 1; nighthawk, 3; flicker, 2; kingbird, 1P; tree swallow, 2; crow, 4; chickadee, 1; brown thrasher, 2P; robin, 2P; bluebird, 1P; cedar waxwing, 2; Kirtland's warbler, 4M; prairie warbler, 1P; scarlet tanager, 1M; goldfinch, 3; junco, 1; chipping sparrow, 4P; clay-colored sparrow, 1P. Combined total: 27 species, 99 adults. Comment:

PART IV - CONIFEROUS WOODLANDS

Habitat	State	Acres	Hrs. Obs.	Year	Adults per 100 Acres	Contributor
18. Jack pine barrens.	Mich.	16	162	1942	356	Josselyn Van Tyne, Frances
			126	1943	275	and Frederick N. Hamerstrom, Jr.
19. Pitch pine barrens and cedar bog...	N. J.	76	100	1938	200	David Fables
			130	1939	168	" "
			75	1940	194	" "
			250	1941	263	" "
			75	1942	242	" "
			200	1943	221	" "
20. White pine - hemlock forest	Vt.	50	20	1934	308	Wendell P. Smith
			20	1936	300	" "
			25	1939	340	" "
			30	1940	342	" "
			35	1941	380	" "
			35	1942	450	" "
			40	1943	536	" "

Slight decrease in breeding numbers may be partly due to the delayed season—some pairs not yet nesting.—**JOSSelyn VAN TYNE, FREDERICK N. HAMERSTROM, JR., and FRANCES HAMERSTROM,** University of Michigan, Museum of Zoology, Ann Arbor, Mich.

19. PITCH PINE BARRENS AND CEDAR BOG. The area (71.8 acres of pine and 4.2 acres of cedar bog, located at Pine Lake Park, Toms River, New Jersey, fully described in previous reports and censused since 1938) was again spared from the spring forest fires that annually burn thousands of acres of south Jersey's pine woods. Young coast white cedars (*Chamaecyparis thyoides*) are once more growing rapidly and are beginning to crowd out certain temporary shrubs which became dominant after the 1930 forest fire that swept part of the census tract. **Water:** Average depth in cedar bog is 5 inches; stream passing through the bog averages 3 feet in depth. **Coverage:** May 9; June 23-July 11, daily; July 27-31, daily. Alone except on May 9, when accompanied on a preliminary survey by Paul Shubeck. **Total,** 200 hours. **Census:** black duck, 1P (6Y); wood duck, 1P; sparrow hawk, 1P; e. bob-white, 2P; woodcock, 1P; e. mourning dove, 2P (3Y); yellow-billed cuckoo, 1P; black-billed cuckoo, 1P; e. whip-poor-will, 3P; e. nighthawk, 1P; ruby-throated hummingbird, 1P (1Y); n. flicker, 2P (4Y); e. hairy woodpecker, 1P; n. downy woodpecker, 1P; e. kingbird, 2P; n. crested flycatcher, 2P; e. wood pewee, 2P; n. blue jay, 1P; e. crow, 1P (3Y); Carolina chickadee, 1P (2Y); house wren, 2P (6Y); catbird, 3P (4Y); brown thrasher, 3P (3Y); e. robin, 4P (4Y); e. bluebird, 1P (3Y); n. pine warbler, 1P (3Y); n. prairie warbler, 4P (6Y); oven-bird, 1P; n. yellow throat, 4P (6Y); e. red-wing, 1P (3Y); purple grackle, 2P (5Y); cowbird, 2P (1Y); e. goldfinch, 1P; red crossbill, 1P (1Y); red-eyed towhee, 20P (15Y); e. chipping sparrow, 2P; e. field sparrow, 3P (8Y); e. song sparrow, 1P (3Y). **Total:** 38 species, 84 pairs (90 young). **Density:** 111 pairs per 100 acres (100 in 1938, 84 in 1939, 97 in 1940, 132 in 1941, 121 in 1942). **Visitors:** great blue heron, turkey vulture, broad-winged hawk, chimney swift, tree, rough-winged, and barn swallows, purple martin. **Comment:** There was a slight decline in density this year, but for no obvious reason. I spent considerable time attempting to find the exact number of pairs of towhees in the area. At 5 A.M. the numbers of singing males are so great as to defy accurate counting, for a voice seems to come from every scrub pine. I am quite certain, however, that there is as yet an undetermined number of singing, unmated males. Perhaps future work will shed light on the question. Pine warbler numbers fell off considerably, as did those of the prairie warbler. The only new species was the woodcock.

One young red crossbill was found. Oven-bird numbers again increased. Numbers of other species seemed to be about normal. The kingbird returned as a breeding bird, but the black and white warbler, tufted titmouse, and white-breasted nuthatch disappeared. A few species ranged outside the census area for some of their food: black duck, wood duck, sparrow hawk, whip-poor-will, nighthawk, hummingbird, red-wing, red crossbill.—**DAVID FABLES,** 421 Walnut St., Roselle Park, N. J.

20. WHITE PINE-HEMLOCK FOREST. A tract of 50 acres of steep hillside culminating in a ridge with many outcropping ledges, located at Wells River, Vermont, and fully described in 1939. Censused in 1934, 1936, and continuously since 1939. Since last year, natural reforestation has progressed farther and more of the large trees, both coniferous and deciduous, have died; these trees include ones partially uprooted and others apparently uninjured at the time of the 1938 hurricane. Large numbers still remain alive, however. Area bounded on most of one side by forest where timber was removed several years before the storm. Other boundaries are an open pasture, a railroad right of way, and the Wells River. **Coverage:** May 31; June 13, 20, 27; July 2, 7, 15, 23, 30; and frequent observations throughout the season. **Total:** about 40 hours. **Census** (* indicates permanent resident): *Canada ruffed grouse, 1Y; saw-whet owl, 1Y; e. whip-poor-will, 1Y; ruby-throated hummingbird, 1Y; n. flicker, 2Y; n. pileated woodpecker, 1Y; yellow-bellied sapsucker, 1Y; *e. hairy woodpecker, 2Y; n. downy woodpecker, 1Y; e. kingbird, 1P; e. wood pewee, 3P; olive-sided flycatcher, 1P; *n. blue jay, 1P; e. crow, 1Y; *black-capped chickadee, 4Y; *white-breasted nuthatch, 1Y; catbird, 2P; e. robin, 7Y; e. hermit thrush, 8Y; veery, 5P; e. bluebird, 1P; cedar waxwing, 2P; blue-headed vireo, 2Y; red-eyed vireo, 4Y; black and white warbler, 4Y; Nashville warbler, 1Y; magnolia warbler, 3Y; black-throated blue warbler, 5Y; myrtle warbler, 1Y; black-throated green warbler, 6Y; blackburnian warbler, 7Y; chestnut-sided warbler, 4Y; oven-bird, 6Y; Canada warbler, 6Y; redstart, 3Y; Baltimore oriole, 1P; scarlet tanager, 2Y; rose-breasted grosbeak, 2Y; indigo bunting, 4P; e. purple finch, 1Y; e. goldfinch, 2P; slate-colored junco, 9Y; e. chipping sparrow, 4Y; white-throated sparrow, 7Y; e. song sparrow, 2Y. **Total:** 45 species, 134 pairs. **Density:** 268 pairs per 100 acres (154 in 1934; 150 in 1936; 170 in 1939; 171 in 1940; 190 in 1941; 225 in 1942). **Frequent visitors:** broad-winged hawk, 1P; e. whip-poor-will, 1P; n. crested flycatcher, 1P; e. crow, 1Y; black-throated green warbler, 1Y; blackburnian warbler, 1P; scarlet tanager, 1P; slate-colored junco, 1Y; chipping sparrow, 1Y. **Total:** 9 species, 9 pairs.—**WENDELL P. SMITH,** Wells River, Vt.